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WORLD PETROLEUM

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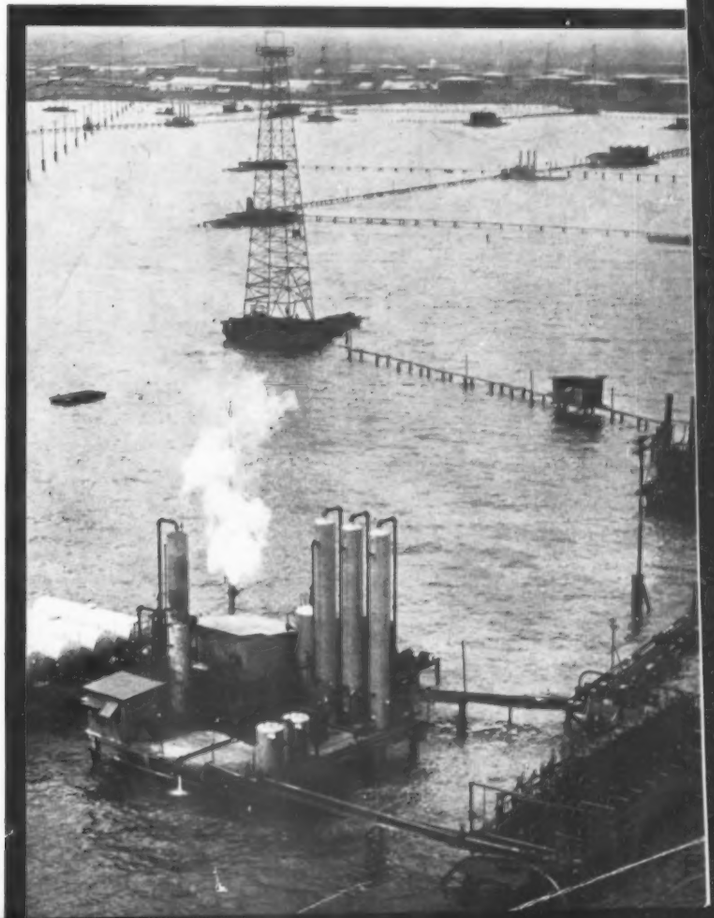

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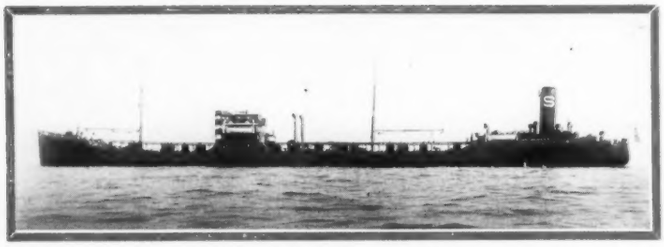

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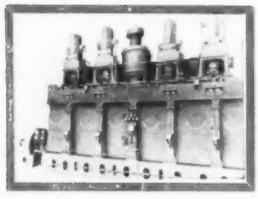

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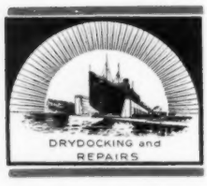

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1931

WORLD PETROLEUM

(Incorporating "Petroleum Equipment Exporter")

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CONTENTS

Frontispiece	658
Editorial	659
Foreign Oil Legion	684
Production	685
Finance	691
Shipping	694

Special Articles

TITLE	AUTHOR	PAGE
High Lights of A. P. I. Meeting		661
State Cooperation in Petroleum Industry	Robert P. Lamont	664
Increased Demand Forseen by Economists		667
Russia's World Oil Position Improving		668
Inventory Values in the Oil Industry	C. C. Bailey	671
Current Oil Topics Discussed by Readers		674
Lago Electrifies Its Venezuelan Fields	E. E. Thomas	676
U. S. Supreme Court Supports State Conservation		681
Water White Color in Motor Fuel		682

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Night Refining In Russia

NEW YORK • WORLD • LONDON

PETROLEUM

Ask World Conference

INTERNATIONAL cooperation in the petroleum industry was transferred from the attenuated sphere of academic discussion to the realm of practical possibility by the message which the Association of Roumanian Petroleum Industrialists addressed to the American Petroleum Institute at its annual meeting in Chicago on November 10. Moved to action by the program for international regulation devised by J. B. Aug. Kessler, joint managing director of the Royal Dutch-Shell Group, and outlined by him in articles published in the September and October issues of WORLD PETROLEUM, the Roumanians declared their willingness to accept the Kessler plan and proposed that it be made the basis of discussion at a conference to be called by the American Petroleum Institute.

The suggestion put forward by the Roumanian oil industry was the outgrowth of discussions among members which preceded the meeting of their association held on October 30. At that meeting a resolution was adopted declaring that the only hope of improvement in the international petroleum market lay in concerted action among producers to hold output below current requirements for a time sufficient to permit the absorption of excess stocks. While willing to do their part in carrying out such a program they apparently felt that the position of the United States as the leading producer of petroleum made it desirable for American interests to take the lead in initiating the movement.

Acceptance of the invitation as issued presented the obvious difficulty that the Kessler plan proposes to regulate the output of petroleum by a definite agreement among the oil industrialists of the principal producing and exporting countries. which is precisely the sort of undertaking forbidden to American business men by the Federal statute prohibiting agreements in restraint of trade. With the best will in the world toward the underlying purpose of the Roumanian resolution American oil producers would have been proceeding under false colors if they had joined in promoting a conference committed to consideration of the Kessler plan on the basis of individual or group activity. Upon authorization of the Board of Directors the President of the Institute was constrained to reply, therefore, that members of the American petroleum industry could not accept any plan involving a definitive agreement to restrict production but would welcome a conference for an exchange of views as to the economic situation and the relation of supply and demand factors in the belief that such discussion might assist producers in the different countries to regulate their own operations in a more intelligent manner.

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Advantages of a Meeting

WHILE the best results that could be anticipated from a "good natured" conference of the sort suggested in President Beaty's message undoubtedly would fall short of the objectives sought by the Roumanian oil interests it is to be hoped that an international meeting will be held. It undoubtedly would accomplish good in several directions. It would enable petroleum producers of the various countries to gain a better understanding of the special conditions and the limitations under which each group is compelled to operate. It would focus public attention upon the fact that stabilization of the petroleum industry is essentially an international problem which cannot be solved by any one nation or business group acting alone. Furthermore it is only by an interchange of ideas that a workable means of achieving stabilization on a world scale is likely to be developed.

At the present time the struggle for markets is entering an acute phase. The keen rivalry which normally exists between competing business organizations is accentuated by the accumulation of surplus stocks and by the slackening of demand that has taken place in certain parts of the world, leading to efforts on the part of various international marketers to establish new outlets in sales territories already well supplied and in which they have not been active heretofore. In addition national and international politics are playing a not unimportant part in some of the moves now under way. Under the circumstances a free discussion of supply and demand factors as suggested in the message of the American Petroleum Institute to the Roumanian Petroleum Industrialists might help materially to clarify the atmosphere and to bring about a better understanding of the general situation.

ALTHOUGH Mr. Kessler in formulating his plan, put aside the question of Russian participation it would seem desirable for several reasons, in case a conference is held, that the Soviet oil organization be invited to join its deliberations. The Soviet Union ranks second only to the United States in volume of production, having taken within the past year the place formerly occupied by Venezuela. Any scheme of world stabilization that is to succeed must take cognizance of Russia's position in the industry. To assume in advance an unwillingness on the part of Soviet interests to participate in an international scheme of stabilization is to rear an unnecessary obstacle in the path of its success. If they actually prefer a position of isolation or antagonism, a refusal to participate in the conference at least will make clear their attitude to other producers and exporters.

Soviet Participation

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IN VIEW of the growing disposition to put upon the Governments of the leading oil producing States of the American Union the responsibility for developing a system of stabilization in the United States, it might be desirable to invite these State Governments to be represented in the international conference. In fact Secretary of Commerce Lamont, in outlining before the American Petroleum Institute a plan for State cooperation, specifically suggested that a joint body representing the various States and the Federal Government might be authorized to negotiate with producers of other nations or to assist in negotiations with other Governments. While Congressional authority would be needed to enable such negotiations to be carried to the point of formal agreement there is nothing to prevent representatives of the petroleum producing States from taking part in a purely deliberative business assembly.

State Representation

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ONE of the features of the political system under which the United States operates that is most difficult for the citizens of other countries to understand is the division of powers between the Federal Government and the States. On the one hand the regulation of trade passing across State boundaries is the exclusive function of the central Government under its authority over interstate commerce. On the other hand such control as may be exercised over production remains within the jurisdiction of the States in the exercise of their police powers. Even in the United States difficulty is frequently encountered in determining exactly where the dividing line is to be drawn between State and Federal authority and after a century and a half of national existence the courts are still being called upon to adjudicate the question. The situation is further complicated by the existence in each of the forty-eight States of the Union of a mass of legislation affecting business operations and by an entire lack of uniformity in such laws.

Divided Authority

Under these circumstances it is not surprising that the outsider finds it hard to follow these ramifications and distinctions of authority, or to understand the inability of American industrial interests to join in international agreements for the common good of business. To explain the existence of statutes that virtually compel business men to engage in destructive competition to their own injury and that of the Nation, or that force the ruthless and wasteful exploitation of invaluable natural resources, involves a certain amount of embarrassment as many American business men have experienced. It is this situation that requires the employment of indirect and ofttimes cumbersome methods to accomplish ends that can be directly approached by the industrialists of other nations.

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UNDOUBTEDLY there is a growing demand in the United States for an overhauling and revision of State legislation relating to the exploitation of petroleum and other natural resources, and for a modification of the Federal anti-trust law, so far at least as it stands in the way of agreements for the conservation of these resources. Unit operation of oil pools, once bitterly opposed as an impairment of the right of the individual to do as he pleased with his own property, has now come to be recognized as a means of protecting the owner of lands overlying petroleum deposits from being despoiled by the greed of his neighbors, or by invaders who have acquired drilling rights but who have no other stake in the welfare of the local community. The widening scope of the authority being vested in State regulatory bodies to enforce proration and other measures promoting orderly development is an indication of the trend of public opinion on this subject and there is little doubt that it will find more positive expression in the near future in laws not merely permitting but requiring a limitation of the number of wells that can be sunk in a given area and an equitable apportionment of output among the proprietors of the overlying surface. It is recognized more widely than ever before that unless this is done it will be impossible to prevent the periodical glutting of markets and the rapid exhaustion of fields with appalling loss to present owners and the impoverishment of future generations.

May Broaden Laws

In the realm of Federal authority there are predictions that Congress, possibly at the session now about to open, will lighten the interdiction against agreements to regulate production where these affect natural resources such as oil, lumber and coal by an amendment to the Sherman anti-trust law. If this is done it will become possible for the members of the petroleum industry to cooperate among themselves in a way that they could not undertake before in effecting a reasonable balance between supply and demand. This will not impinge upon the field of State activity in the promotion of stability but will make it possible for State authorities and individual groups to cooperate to mutual advantage.

▼

AMONG other things it was proposed at the Chicago meeting that the publicity work of the American Petroleum Institute should be broadened and coordinated with the activities of the "public relations" men of the several oil companies. In the past the Institute has confined its publicity work to issuing statistical and informative material. By so doing it has performed a very useful service and has won the confidence and respect of publishers. It is to be hoped that this course will be followed in future.

Publicity Proposals

Proposals to employ the Institute's facilities for "educational" work in concert with trade paper publishers and press agents should be resolutely discouraged as diverting an excellent organization from its proper field of usefulness.

Highlights of A. P. I. Annual Meeting

Roumanian Interests Suggest International Conference—Stabilization Through State Cooperation —Nation-Wide War Against Evasion Launched— New Officers Elected.

CONSIDERATION of world stabilization as a main problem of the oil industry was precipitated upon the twelfth annual meeting of the American Petroleum Institute held in Chicago, Nov. 10-12 by receipt of a cablegram from the Association of Roumanian Petroleum Industrialists suggesting an international conference on production. Referring to the plan of world regulation proposed by J. B. Aug. Kessler, joint managing director of the Royal Dutch-Shell group, which was set forth in detail by Mr. Kessler in articles published in the September and October issues of WORLD PETROLEUM, the Roumanian producers stated that they were prepared to adopt the Kessler plan and suggested that it be made the basis of discussion at a conference to be called by the American Petroleum Institute.

While recognizing the importance of the suggestion and appreciating the motives of the Roumanian producers in advancing it, the Board of Directors of the Institute, mindful of possible collision with the anti-trust law through an agreement to limit production, referred the invitation to a committee consisting of C. F. Meyer, chairman, J. C. Van Eck and Judge C. B. Ames. The committee drafted the following reply which was approved by the Board and forwarded by President Beaty:

"The American Petroleum Institute expresses its appreciation of your cable quoting a resolution passed by the Association of Roumanian Petroleum Industrialists and suggesting that this Institute take in hand a convocation of a world petroleum conference on the subject of production, and that the Kessler plan be accepted as the basis of discussion. Owing to the laws of the United States the American petroleum industry cannot accept the Kessler plan as a basis of discussion nor any other plan involving a definitive agreement between producers to restrict production, but nevertheless believes that benefits might result from a world conference of producers which would be limited to an exchange of views on the worldwide economic situation and of the supply and demand factors in order to give the producers of every country the opportunity,

Amos L. Beaty, new president of the American Petroleum Institute.

in conformity with their own laws, individually to regulate their operations in the most intelligent manner. If you believe that a conference within this scope would be beneficial and if you desire the American Petroleum Institute to call such a conference we are willing to do so."

While this movement toward a closer international understanding may ultimately rank as the most important single development of the convention a wide range of subjects was covered in the discussions which took place at the general sessions and committee meetings. Two topics were of outstanding interest. The first of these was the imminent need of developing a workable system of stabilization in the United States by which a reasonable balance between supply and demand can be maintained. The second was the urgency of better marketing methods, and specifically of a reform in State laws taxing gasoline and in the administration of such laws to suppress the growing evil of tax evasion.

Stabilization a Necessity

RETIRING President E. B. Reeser stated the situation confronting the industry in the matter of stabilization in a single sentence of his annual address when he said: "I contend that, in the case of petroleum, proper balancing of supply and demand, and complete observance of the laws governing both, make equitable proration of production between the various fields and States not only desirable and possible, but an absolute necessity."

In support of this conclusion President Reeser instanced the fact that during the current year, despite the slump in general buying, consumption of petroleum products in the United States has exceeded that of previous years. But, while more gasoline has been sold it has been sold at prices about one-third those of ten years ago. The increased volume of business has been handled without a normal profit and a great part of it at an actual heavy loss. The industry's failure to make use of the instrumentalities of stabilization which it already has was attributed by the President to the fact that, "under existing law and in the face of forced competitive conditions, well laid plans and sound economic programs are at the mercy of the individual." He pointed out that there had been an excessive volume both of production and refining with the result that retail prices were pushed below the level of costs and cited these conditions as "an outcome of failure, lack of willingness or definite refusal to support attempts to balance supply and demand."

Unit Operation Gains Favor

GROWING sentiment in favor of unit operation of pools was evident at the convention. Legal and practical aspects of the subject were discussed in meetings of the Division of Production. In an address dealing with the policies involved J. Edgar Pew of the Sun Oil Company expressed the opinion that 75 to 90 percent of the industry now favored unit operation. "I want to see us united 100 percent on that policy and then go forward to the goal," said Mr. Pew. He proposed the following as a platform on which the Institute could

stand in support of the principles involved in unit operation:

"That unit operation, which we have heretofore approved, should be practiced in all new developments, and introduced as fast as possible in old ones; and that machinery be set up to bring about the removal of any obstacle to this program, through State legislation.

"That the owner of the surface is entitled only to his ratable share of the oil and gas in a common pool, and we will unite to seek to bring about acceptance of this principle in the laws of oil producing States."

State Cooperation Urged

COOPERATION among the principal oil producing States as a means of achieving national stabilization, which was discussed in the November issue of WORLD PETROLEUM, was advocated by several speakers before the convention. President Reeser in his annual address found encouragement for the future in the recent action of State regulatory bodies in Kansas, Oklahoma and Texas in joining in a program contemplating the limitation of production to recommend amounts for the final quarter of 1931 and for 1932. Secretary of Commerce Lamont devoted his address before the annual dinner of the Institute, which is published on following pages of this issue, to the elaboration of a plan for united State action.

Modification of Anti-Trust Law

THE effect of the Federal anti-trust law in blocking programs for the conservation of natural resources was comprehensively presented to the convention by Oscar Sutro, vice-president and general counsel of the Standard Oil Company of California, who took the position that the law itself was sound and should not be repealed; but that "its development and interpretation and the uncertainties of its application have given to the statute a scope and effect far beyond its original purpose and far beyond any beneficial result."

Mr. Sutro proposed that the law should be amended by adding the following clause:

"Nothing in this act contained shall be deemed to render illegal any contract, combination, trade agreement or trade practice approved by the Federal Trade Commission after finding by the Commission that the same is not against the public interest as an unreasonable restraint of competition or of trade, and that every such contract, combination, trade agreement or trade practice shall be deemed to be valid while such approval remains in force and unrevoked."

Such an amendment, Mr. Sutro held, would restore the proper test of trade agreements, namely, whether they are in the public interest or not. At the same time it would relieve business men of the fear of prosecution which now restrains them from entering into agreements which might be held by the courts to be perfectly valid.

Tax Laws and Tax Evasion

ON no other subject was there such general interest or such unanimity of opinion among those in attendance at the convention as in regard to the need of suppressing the evil of gasoline tax evasion. It was the chief topic dealt with in the meetings of the Division of Marketing and it entered into the discussions of the Board of Directors and of various committees. Admitting that the seriousness of tax evasion had not been fully appreciated until it was exposed by the newspaper and trade press the officials of the sales organizations of the various companies agreed that the situation called for vigorous action as the only means of preventing the complete disintegration of the existing marketing structure. It was shown that the evil of price cutting was founded to a large extent upon tax evasion and that the prevention of the practice would help to minimize the menace of price cutting.

Referring to this subject President E. G. Seubert of the Standard Oil Company of Indiana, chairman of the Division of Marketing, said in his report:

"We have even greater cause for complaint in the effect which tax evasion is having in undermining and demoralizing the whole system of legitimate marketing. The tax evader can cut his price by the amount of the tax, and still make as much money as the marketer who pays the tax. He can cut it by part of the tax, and make more than the legitimate marketer. He can cut it more than the amount of the tax, and still make some money when the legitimate marketer is suffering a loss. With competitive conditions what they are, with the tendency strong on the part of all rival marketers to meet the price reductions announced by competitors, it is easy to see that a single tax evader, by cutting his prices to obtain business, can cause a reduction of prices by all other marketers in his community. If he cuts repeatedly, he can bring prices down to a level that means ruin for the legitimate marketers, while he can continue to make a profit, increasing as he obtains the business of his competitors. Low prices in one community spread rapidly to other communities. A few tax evaders here and there can wreck the price structure of a vast territory in the course of time."

Expressing the sentiment of the Institute in relation to tax evasion the Directors adopted the following resolution:

"Be it resolved by the Board of Directors of the American Petroleum Institute that gasoline tax evasion has become so wide-spread that it threatens to defeat the reason for its existence and has become a serious menace to the industry;

"That it is necessary to take immediate and effective measures to put an end to such evasion in all States;

"That active effort in each State be made through the organization of the units of the industry operating in such State, each of such organizations arranging for its own financing and control; and

"That to that end the Institute immediately arrange to aid and assist in the promotion and organization of committees in each State for the purpose of combating gasoline tax evasion in all its forms and for the procuring and disseminating of information and publicity in aid of such effort."

Frank V. Martinek of the Standard Oil Company of Indiana, who has been active in organizing the campaign against tax evaders in Chicago marketing territory and Paul Hadlick, secretary of the Division of Marketing, were appointed a special committee to represent the Institute in carrying out plans for a nation-wide organization against the tax evaders.

A related subject to which attention was given by the Division of Marketing was the encouragement of uniform tax laws among the States in order to provide a more equitable system and as a means of making tax evasion more difficult. A comprehensive discussion of this subject was contained in a paper read by William A. McAfee of the Standard Oil Company of Ohio.

Tariff Referendum Voted

ADVOCATES of a duty on importations of petroleum and petroleum products brought that issue before the Board of Directors of the Institute by presentation of a resolution endorsing such a duty. While there was a feeling among some members of the Board that the Institute should not take a stand on a political question of this kind the tariff advocates were insistent upon action and

a resolution approving in principle a tariff upon oil and oil products and providing for a referendum of members on the subject was adopted by a vote of 20 to 16 with 17 members present but not voting.

New Officers Elected

IN the election of officers for the coming year the Board of Directors made a departure from previous policy by making the Presidency a salaried position calling for the full time and attention of its occupant. Amos L. Beaty, a director of the Philips Petroleum Company and formerly an officer and director of The Texas Company and the Transcontinental Oil Company, was elected President. Mr. Beaty is a Texan and for several years has been Treasurer of the Institute. In a very brief address at the annual dinner of the Institute, Mr. Beaty made clear that he intended to adopt a vigorous administrative policy and would not hesitate to ask members to follow lines of action which he felt necessary to promote the welfare of the industry.

Other officers elected were H. R. Gallagher, Shell Union Oil Company, San Francisco, Vice-President at Large; C. F. Roeser, Roeser and Pendleton, Inc., Fort Worth, Texas, vice-president for production; D. J. Moran, president, Continental Oil Company, Ponca City, Oklahoma, vice-president for refining; W. T. Holliday, president, Standard Oil Company of Ohio, Cleveland, Ohio, vice-president for marketing; A. J. Byles, president, Tide Water Associated Oil Company, New York, treasurer. W. R. Boyd, Jr., was re-elected as executive vice-president and Lacey Walker as secretary and assistant treasurer.

The Board of Directors was enlarged to 72 instead of 67 as formerly. The membership for 1932 consists of the following:

PRODUCTION GROUP

Pacific Coast:

R. A. Broomfield ..... Barnsdall Corp.
George Legh-Jones ..... Shell Oil Co.
W. C. McDuffie ..... Pacific Western Oil Co.
L. P. St Clair ..... Union Oil Co. of Calif.
Oscar Sutro ..... Standard Oil Co. of Calif.

Rocky Mountain:

B. B. Brooks ..... Consolidated Royalty Oil Co.

Central U. S.:

W. S. Farish ..... Humble Oil & Refining Co.
H. V. Foster ..... Foster Petroleum Co.
Charles F. Roeser ..... Roeser & Pendleton
Robert R. Penn ..... Penn Oil Co.
J. Edgar Pew ..... Sun Oil Co.
Frank Phillips ..... Phillips Petroleum Co.

Eastern U. S.:

Axtell J. Byles ..... Tide Water Assd. Oil Co.
O. D. Donnell ..... Ohio Oil Co.

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H. R. Gallagher ..... Shell Oil Co.

Rocky Muontain:

T. A. Dines ..... Midwest Refining Co.

Central U. S.:

John L. Gray ..... Deep Rock Oil Corp.
Roy B. Jones ..... anhandle Prod. & Ref. Co.
P. M. Miskell ..... Empire Refineries, Inc.

Eastern U. S.:

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W. E. Smith ..... Standard Oil Co. of Ky.
Charles L. Suhr ..... Pennzoil Co.

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Tank Cars:

L. J. Drake ..... Union Tank Car Co.

SUPPLY GROUP

John M. Crawford ..... Parkersburg Rig & Reel Co.

NATURAL GAS GROUP

Floyd C. Brown ..... Continental Constr. Co.

NATURAL GASOLINE (Casinghead) GROUP

E. J. Marston ..... Texas Pacific Coal & Oil Co.

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Far East:

Herbert L. Pratt ..... Standard Oil Co. of N. Y.

Mexico and South America:

Richard Airey ..... Asiatic Petroleum Co.

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W. N. Davis ..... Phillips Petroleum Co.
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Jacob France ..... Mid Continent Petr. Co.
Wirt Franklin ..... Wirt Franklin Petr. Co.
S. A. Guiberson ..... Guiberson Oil Inv. Co.
R. C. Holmes ..... The Texas Co.
William F. Humphrey ..... Associated Oil Co.
F. A. Leovy ..... Gulf Production Co.
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W. M. Keck ..... Superior Oil Co.
W. M. Irish ..... The Atlantic Refining Co.
C. F. Meyer ..... Standard Oil Co. of N. Y.
E. T. Moore ..... Simms Petroleum Co.
Thomas A. O'Donnell .....
J. C. Van Eck ..... Shell Union Oil Co.
George P. Whaley ..... Vacuum Oil Corp.

A. P. I. Moves for Unit Operation

WITHIN less than a week after the close of the American Petroleum Institute's annual meeting in Chicago, President Amos L. Beaty had initiated his campaign of direct action by appointing a committee of eleven to investigate and report on a plan for Unit Operation of oil fields. The committee has been directed to report within 60 days and their problem is to devise a plan based on the principle that each surface owner is entitled to his equitable share of the recoverable oil determined in the proportion which the recoverable reserves underlying his land bear to the recoverable reserves in the common pool. The committee consists of Charles F. Roeser, chairman; J. Edgar Pew, W. N. Davis, W. P. Z. German, Oscar Sutro, C. B. Ames, W. S. Farish, Wirt Franklin, A. W. Peake, E. B. Roeser, and R. E. Hardwicke, associates.

The Institute at its annual meeting expressed itself strongly in favor of unit operation of oil pools and the work of the A.P.I. in checking the reckless competition of producers directed against other producers in the same pool regardless of wasted oil reserves and gas pressure, is considered a step of the utmost importance by the industry as a whole.

Valuable recommendations are expected from the eleven members of the committee, seven of whom are production men of wide experience devoted to advancing the cause of better production methods, four of whom are distinguished lawyers who have been confronted at one time or another with most of the important legal problems of the industry and all of whom possess to a marked degree the confidence and good will of the members of the petroleum industry.

State Cooperation in Petroleum Industry

By Robert P. Lamont
SECRETARY OF COMMERCE OF THE UNITED STATES

DURING the past five years a new movement has taken form in the oil industry. It is not an exaggeration to say that its success or failure may determine whether the producing branch of the oil industry continues as an individual business, if the new movement succeeds, or comes ultimately under closer Federal regulation if the present effort fails. That movement is the plan for cooperation between the producing States. It may be of service to show the background of that effort, to indicate how far it has gone, and to point out what we hope can be accomplished by it. Before going back over the last five years, it is well to point out certain present-day conceptions of the relationship of the State and the national Government to the oil industry. First, the national interest deserves emphasis. For instance, in the matter of national defense: Of 291 seagoing vessels in active service in the navy, 281 are oil-burners. The army and navy between them have about 2,800 planes in commission all of them using petroleum products. About 80 percent of the horsepower of all prime movers of the country, fixed and automotive is generated by oil and its products. There are about 26,000,000 automobiles registered or in present use, representing an investment by your citizens of about $18,000,000,000. The 48 consuming States in 1930 collected over $494,000,000 in gasoline-sale taxes, quite aside from the crude oil production-taxes realized by the producing States. The consuming States collected almost exactly the same amount for each gallon of gasoline—a weighted average of about 3.77 cents—as the oil industry did for all its work from the well through the refinery, since the average refinery price of gasoline was about 3.5 cents. The 300,000 oil wells which are responsible for the steam of our warships, the flight of our airplanes, the financing of our highways, and the turning of 80 percent of all our wheels, are most vital factors in the social and economic life of this modern machine age. There is a national interest in the production of oil from these wells which goes to the foundation of the relationship of the Government to the citizen. But these wells are concentrated in a few States; 97 percent of our production comes from seven States. All but

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10 percent comes from privately-owned land. If the supply falters, the nation suffers its lack; if the supply overflows, the nation suffers because its irreplaceable oil and gas are driven into wasteful uses. If gas is wasted either above or below ground, 120,000,000 Americans suffer a three-fold loss; first, because the gas generates no steam; second, because it will never bring oil to the surface; and third, because the oil which is left behind—robbed of its gas content—becomes difficult if not impossible to recover.

It is a strange thing that, despite the nation's vital dependence on oil, its production has been almost entirely unaffected by Federal regulation. Our present-day conception of the relationship of the Federal Government to the landowner, his well, and his lessee is one of remoteness. There is a growing movement for Federal regulation of interstate oil and gas movements, but the well itself under our present laws is as remote from Federal contact as if it were located in another country. Only in war-time have the two come into a conscious relationship. and then it has been a relationship of collision. This lack of contact between the oil well and the Government may or may not be desirable. I point it out simply to emphasize what follows.

Our seven major oil-producing States bear a peculiar relationship to the nation. If waste occurs, the producing State must prevent it with a power which it is assumed the Federal Government does not have—the police power. There is a growing consciousness that the oil States hold their police power in trust for the nation. Any one of four States can directly damage a nationwide industry, impair the tax structure of every State, and indirectly imperil the national defense, by a disregard of this trust. If the trusteeship is wisely administered, there is not likely to be sufficient popular pressure for transfer of the power to the Federal Government. If the national interest is selfishly disregarded, and the American people ever become conscious that the mad wastes of the past are being continued, you and I may live to see the oil industry in a legislative strait-jacket which it should not deserve.

Five years ago, however, there began this movement of which I speak, looking toward an exercise of the trusteeship of this oil-producing minority of our States through concerted action among them. In its 1926 report, the Federal Oil Conservation Board outlined a plan for cooperation among the oil States, by compact or otherwise, looking toward uniform laws and correlation in their enforcement. In 1929 the idea was laid by the Chairman of the Board before a conference called by the President at Colorado Springs, and it was at least informally approved there by the Governors of four oil States. In 1930 the Board, as an aid to correlation of regional supply to regional demand, began a series of forecasts of demand and recommended supply, which, through either skillful prediction or through their use as guides, have hit within a few percent of accuracy.

The most significant development of this idea of correlated State action has come in 1931, and it is solely because this tendency has gathered force that the oil industry today can face the future with more confidence than at any time in the last five years. In April of this year the Oil States' Advisory Committee, appointed by the Governors of 10 States, laid before the Federal Oil Conservation Board a program calling for an agreement among the oil producing States under which each State, while retaining administration of its own resources, would enact uniform conserva-

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tion laws, coordinate their enforcement with those of other States, and cooperate through an interstate advisory board, which would balance State production quotas and help in the correlation of such quotas with foreign production. The Federal Oil Conservation Board gave its formal approval; such a program was directly in line with its own efforts.

In September of this year, the first practical step toward carrying out this program was taken. The Public Service Commission of Kansas, the Oklahoma Corporation Commission, and the Railroad Commission of Texas met jointly and agreed upon a production quota for each oil State which would balance supply against indicated demand. California, New Mexico, Colorado and Wyoming have adhered. A schedule for foreign production was likewise recommended.

Thus, after five years' evolution, we have the beginning of a solution. It is only a beginning. But this evolution has at least brought the industry to the edge of, if not out of the jungle, even if it is still traveling with some difficulty; perhaps if we continue on the same path we may find our way to the open road leading to a satisfactory permanent solution.

I wish therefore to propose to you presently a plan which is not so much an invention as a restatement of ideas that have been soaking in for these five years. Before stating it, I want to point out how far from a permanent solution we still are.

Our production problems fall into two classes—first, stabilization of supply from the various States, and second, the elimination of waste within each State. The stabilization problem includes at least five major items:

First, there is no machinery for scientifically predicting the reasonable market outlet for a State's fields in relation to production from other States. So far, the voluntary efforts of committees of the American Petroleum Institute and of the Federal Oil Conservation Board have been the only guides; these have been available only a short time, and no State is bound to pay any attention to them.

Second, there is no machinery for committing a State to observance of a reasonable production schedule so that its neighbors may plan their own with any assurance. The gentleman's agreement between Oklahoma, Kansas and Texas now in force shows how important a factor such correlation can be.

Third, there is no Federal or State legislation which attempts to regulate the extension of pipe lines into new fields. If there were, much of the unnecessary oil which gluts interstate commerce might be excluded.

Fourth, there is no machinery in existence for correlating domestic production and foreign production, to ensure that domestic curtailment will not be offset by increased foreign production to the detriment of our markets. As long as competing foreign fields are generally unit-operated, and our own are not, any difference in production-costs will be borne either by our consumers, if they use American oil, or by the more costly producers if foreign oil replaces their product. Oil once produced will find a market; foreign oil will compete in our market abroad or here. Our best hope, until we put our house in order through unit-operation, lies in international agreements for restriction of production. But the Federal Government cannot make such an agreement because it lacks the police power to enforce it in any State; and no State may make such an agreement—first, because of the constitutional prohibition against foreign treaties, and second, because if made, the State could not enforce it against its neighbor within our Union. A remedy is suggested later in this paper.

Fifth, there are specific Federal statutes which prohibit agreement among importers or between importers and domestic interests for the restriction of imports, and prohibit agreements in restraint of interstate commerce.

The above are the difficulties in the way of stabilization, which is our pressing production problem.

But there are problems of another class; i.e., the prevention of waste within a State, which must ultimately be met. For instance:

First, we have as yet no adequate control over new drilling. Until some State passes a statute which vests in the State the discretion to deny a man the privilege of drilling an oil well which will waste the contents of a common reservoir, and compensates by allowing him to share his neighbor's production and his costs, we are attacking the disease after allowing the infection. If the troubles of this industry had to be summarized in one word, "overdrilling" would be that word. Every State has some provision for licensing of drilling, but most of these State statutes are merely gestures. Minimum spacing of wells, as in California and Texas, and restriction on production in proportion to the acreage per well, as in Louisiana, are as close as any State statute has come. Some municipalities, such as Oxford, Kansas, have successfully gone further. So far only one Governmental agency has successfully put a stop to unneeded new drilling, the United States, on its own lands, under the conservation order of March 13, 1929, prohibiting issuance of further prospecting permits, and extending existing permits only on deferment of drilling.

Second, unit operation is so obviously the one method of adapting the fictitious checkerboard of surface control to the actual unity of the underlying reservoir that the hesitancy to promote it would be inexplicable if we did not know the individualistic background of the industry. So far, no State has attempted compulsion of unit operation; but the possibility is by no means remote. While only three States—California, New Mexico, Wyoming, and the United States on its public lands—have laws specifically authorizing unit operation, the only obstacle to unit operation in other oil-producing States is the possible interference offered by State antitrust laws. However, there is good legal opinion to the effect that agreement for unit development do not violate these State laws.

Third, only one State—Oklahoma—has set up a State regulatory body with specific power to fix a State production quota, based on market demand, and to allocate production as between different fields. The constitutionality of this power is now before the Supreme Court of the United States. Even in the event of an adverse decision in the Oklahoma case, however, there is always the possibility that a similar California statute, drawn at a later date and now suspended by a referendum petition, embodies important differences from the Oklahoma statute that may lead to its upholding. This statute may then serve as a model for future conservation legislation. Texas has specifically refused her Railroad Commission the authority to take economic waste into consideration, or equate production to market demand. Arkansas and Louisiana prohibit discrimination by a gas purchaser in favor of one field against another. In all other States—Kansas, Texas, Arkansas, Louisiana—where there is a State-directed effort to balance oil production with demand, the statute provides only for proration within a single field and says nothing about balancing the total production of the State against its share of the national demand, nor allocation of production as between competing fields within the State.

Fourth, while eight States have statutes prohibiting the blowing of gas into the air, five States have statutes speci-

fically allowing it, if necessary to operate an oil well.

Fifth, only four States—California, Kansas, Michigan and Texas—have laws prohibiting operation of a well at an excessive gas-oil ratio, or in such a manner as to waste gas energy.

Sixth, only two States—California and Texas—have laws defining as waste the use of production methods which leave an unreasonable quantity of oil unrecoverable in the ground.

Having stated some of our present deficiencies, I shall present here a plan, or rather a restatement, of three fundamentals which are designed to point a way onto firmer ground:

First, provision should be made by interstate compact, approved by Congress, for putting on a permanent basis the periodical forecasting of demand, the setting of State production quotas to meet that demand, and enforcement of such quotas, all of which are now being undertaken informally by the regulatory commissions of Oklahoma, Kansas and Texas under the agreement of September 13. Such a compact should create a permanent interstate advisory body, formally recognized, which could perform functions of coordination. Enforcement within each State would rest with the State regulatory body constituted by its own laws.

Second, State laws, which are uniform in principle if not in detail, are ultimately needed within the compacting States. These might well include, among other things, provisions (1) prohibiting drilling or the extension of pipe lines into new fields without a showing of public convenience and necessity; (2) requiring wide spacing of wells; (3) prohibiting waste of gas and gas energy both above and below ground; (4) fixing minimum gas-oil ratios; (5) authorizing regulatory bodies to require ratable taking within each field and between competing fields; (6) authorizing unit operation; (7) and giving the State regulatory body broad powers to require production methods which will ensure maximum recovery from the ground. One function of the interstate advisory board should be to draft and recommend such laws from time to time if the compact itself does not outline them. But the coordination of various State production programs is a more pressing matter than uniformity of State laws; the first objective of a compact should be to get the States cooperating on a permanent basis. Uniform laws, when adopted, might reasonably go beyond the production stage and aim at correction of the demoralized marketing methods of the industry, but that is beyond the scope of the present discussion.

Third, as recommended by Secretary Wilbur, a joint Federal and State fact-finding body for arriving at an equation of domestic and foreign production and imports should be created by the compact of the States and with the approval of Congress. This joint body might be authorized to negotiate with foreign producers and assist in negotiations with foreign Governments. Its State members might be also members of the interstate advisory board so that the agreements made could bring the States' police power directly into play for their enforcement. Federal participation, in the long run, is essential for the protection of the consuming public.

This three-point program—coordination of State production by an interstate compact, uniformity of conservation principles by a compact or otherwise, and equation of foreign and domestic production by a joint Federal-State board created by the compact—can be accomplished just as quickly as necessity demands. It is to be hoped that the beginning made by Oklahoma, Kansas and Texas, which is a temporary compact enforced partly by martial law, will grow into something permanently effective, or else a continuation of such sprees as we have seen in East Texas will very quickly convert the indigestion of the oil industry into something like appendicitis.

Meanwhile, there are certain things that can be done without waiting for legislation. I hope that Kansas, Oklahoma and Texas continue their joint curtailment program, and their public service commissions and the Oil States Advisory Committee continues to cooperate.

The Federal Oil Conservation Board will continue to supply such forecasts of supply and demand as may be helpful. The question of relief from excessive imports while we are correcting our domestic situation can be taken up by the official State commissions directly with each importing company. While a Federal statute prohibits agreements between individuals looking toward import restrictions, I know of nothing to prohibit a State from such discussions, conducted formally by its regulatory body for the purpose of acquiring information on which to base its own pro-ration program. Imports for the first nine months of 1931 were about 26 percent below the comparable 1930 figures; you are familiar with the efforts of the Federal Oil Conservation Board to that end. While further adjustment of imports may be desirable, it will not cure all of our difficulties, the greatest of which lie within our own borders, and it should be kept in mind from the standpoint of national interest that we are exhausting our own reserves of this vital resource at a rate out of all proportion to the ratio between our own reserves and those of the rest of the world. As you all know, the United States, with less than 20 percent of the world's reserves, is producing and consuming over 60 percent of current world production.

The oil industry has a great responsibility and a great opportunity. Its market reaches to every family and every industry in the country. It deals with a national resource in which every citizen has a vital interest. If conducted on the basis of a trusteeship of a basic commodity, avoiding unnecessary wastes in production and distribution, the industry should be able to furnish an adequate supply of oil and its derivatives of good and uniform quality at fair prices to the consumer, and to make a fair return on its invested capital. These purposes can be accomplished largely within the framework of existing laws and with a minimum of Federal regulation, if the industry will whole-heartedly cooperate in making effective, measures already initiated and the proposals which have been outlined. I have every confidence that the industry has or will develop the capacity and leadership to recognize its great opportunity and to discharge its equally great responsibilities.

▼

Tariff Anticipated by Reeser

"I NOW firmly believe that the next congress will enact an oil tariff measure," said E. B. Reeser, ex-president of the American Petroleum Institute, and president of the Barnsdall Oil Corporation, at a meeting of the Board of Directors of the Tulsa Chamber of Commerce on November 3. "I have favored a tariff on oil for some time," said Mr. Reeser, "but simply because of its psychological effect on the industry as a whole. It is to the domestic market that American producers and refiners must look for a market, as a stabilized industry in the United States cannot hope to compete in foreign countries with oil produced and refined under cheaper conditions. Our foreign trade is continually dwindling and will grow less year by year."

Mr. Reeser is one of the directors of the A.P.I. who voted for a tariff on oil imports at the Chicago meeting.

Increased Demand Foreseen By Economists

Accuracy of Past Estimates of Motor Fuel Requirements Make Forecast for First Half 1932 by Volunteer Committee on Petroleum Economics Extremely Valuable to Oil Industry.

TOTAL decline in United States requirements for motor fuel for the nine months ending June 30, 1932, is estimated at 1.6 percent by the Volunteer Committee on Petroleum Economics in its recent report to Secretary Ray Lyman Wilbur, chairman of the Federal Conservation Board. While the Committee anticipates a 1.9 percent increase in domestic demand, the estimated decline of 19.2 percent in foreign demand compared with the same period last year is considered sufficent to off-set internal increase in consumption.

Actual estimated requirements for U. S. motor fuel are placed at 289,000,000 bbl. against 283,690,000 bbl. for the comparable period last year. Foreign requirements for U. S. motor fuel are estimated at 110,000 bbl. daily.

Estimated Monthly Demand for U. S. Motor Fuel

(In thousands of Barrels of 42 U. S. gallons)

	A.P.I. Committee's Estimated Total Demand	Volunteer Committee's Estimated Total Demand
October (1931)	37,500	37,645
November	34,300	35,605
December	33,400	32,270
January (1932)	30,580	30,600
February	30,100	31,255
March	34,000	34,845
April	37,400	37,160
May	40,200	39,110
June	42,700	41,475

The value of the Committee's estimate of requirements is indicated by the investigations on which it bases its conclusion and, far more important, the accuracy of its forecasts in past reports. In the report issued in April of this year, covering the six months ended September 30, 1931, the percentage of error in the total was only 0.0174.

Calculations of motor fuel required for the period under consideration took into account the number of motor vehicles which is at present 2/3 percent less than a year ago. Decreased number of motor vehicles in use at present is, however, largely off-set by the greater use per vehicle. This was determined in part by compiling statistics of traffic at certan key points throughout the country. Anticipation of a mild winter coupled with improved faciltes for snow clearage, constructon of highways, tunnels and bridges makes increased use per vehicle possible while various notable events, such as the Washington Bi-Centenial celebration, furnishes stimulation for travel. Even the additional day in February 1932 has been considered and it is estimated that this will add approximately 1,000,000 bbl. to domestic demand.

On the basis of these estimates of requirements the Committee has constructed a schedule for use as a guide to the industry in producing and refining requirements. In general the Committee's program has as its goal the reduction of stocks to 28,000,000 bbl. by the summer of 1932.

Past trends indicate that in the coming period under consideration the economic balance can be maintained only by a further decrease in the production of fuel oil: crude must be split into more gasoline and less fuel oil. Bunker deliveries and fuel oil supplied to railroads and power houses has dropped below the decreased production recorded for 1930. Trends indicating increased cracking facilities and wider use of natural gasoline appear capable of keeping the economic balance.

Imports of crude and motor fuel are expected to approximately balance exports in quantity according to the report submitted by the Committee, the one important point in which they differ from the Committee on Refinery Statistics and Economics of the American Petroleum Institute.

Statistical Schedule for Petroleum Industry

(October 1, 1931—June 30, 1932)

	Period Ended June 30, 1931 (Barrels)	Period Ending June 30, 1932 (Barrels)	Change Per Cent
Motor Fuel Demand:			
Domestic	283,690,000	289,000,000	+ 1.9
Foreign	38,297,000	30,945,000	—19.2
Total Demand	321,987,000	319,945,000	— 0.6
Added to Storage)			
At Refineries	4,871,000	2,690,000	—44.8
Pipelines, etc. *	1,031,000	.....	.....
Total Requirement	327,889,000	322,635,000	— 1.6
Motor Fuel Supply:			
Refinery Production	312,069,000	309,200,000	— 0.9
Miscellaneous Production	5,124,000	3,800,000	—25.8
Imports	10,696,000	9,635,000	— 9.9
Total Supply	327,889,000	322,635,000	— 1.6
Crude Oil Demand:			
Refinery Throughput			
a—Domestic Crude	614,774,000	608,440,000	— 1.0
b—Foreign Crude	39,468,000	24,660,000	—37.5
Total	654,242,000	633,100,000	— 3.2
Exports	17,124,000	25,600,000	+49.5
Used as Such, etc.	21,076,000	19,300,000	— 8.4
Total Crude Oil Demand	692,442,000	678,000,000	— 2.1
Crude Oil Supply:			
Domestic Production	629,236,000	651,846,000***	+ 3.6
Imports	39,764,000	24,660,000	—38.0
Drawn from Storage	23,442,000**	1,494,000	—93.6
Total Crude Oil Supply	692,442,000	678,000,000	— 2.1

* No provision made for increases in gasoline pipeline storage. Quantities needed to be supplied from gasoline production in addition to that provided for.

** Includes all crude except California stocks of heavy crude and fuel oil.

*** Total for period at daily rate of 2,379,000 barrels.

Russia's World Oil Position Improving

Present Economic Conditions in Europe and Elsewhere Tend to Favor Soviet Competition for International Petroleum Markets. Importance of Limiting Russian Activities by Agreement.

ONE of the best informed authorities on Russian trade in petroleum has just completed a personal investigation of market conditions in Europe. The conclusions drawn from this study are set forth in the accompanying article. They are in brief that abandonment of the gold standard by Great Britain and certain other countries has greatly strengthened the competitive position of the Soviet Union whose willingness to accept manufactured articles in exchange for petroleum products is held to be an inducement of exceptional weight under existing financial conditions. The expert whose views are here presented holds also that Russia should be included in any program of world stabilization.

NOT many months ago Soviet Russia's lack of extensive distributing and marketing facilities, combined with the fact that some big petroleum contracts at very favorable prices had not been renewed, caused her to face the possibility of losing her hold on her existing markets, as well as preventing further expansion of the remarkable growth made last year when she exported 36,023,250 bbl. of crude oil and petroleum products. While the course of international trade so far this year has confirmed this expectation as the Soviet Oil Trust had been able to ship only 25,644,680 bbl. up to the end of August of a program calling for 55,000,000 bbl. during the year, her business fortunes are likely now to take an unexpected turn for the better and further to disturb American and Caribbean export trade.

Russia's earlier position has been practically reversed during the past few months, due to Great Britain having gone off the gold standard and to other changes in European economic conditions. She now is likely to become a prominent factor in international oil affairs, or at least to be enabled to secure a large proportion of the going business.

Consequently, any plan for world petroleum stabilization must necessarily include some form of marketing agreement with the Soviets. Otherwise stabilization plans can hardly result in successful operation. While the Kessler plan, as outlined by its author in the pages of WORLD PETROLEUM, possesses many constructive features the proposal to ignore or omit Russia from the suggested conference is a matter of regret, the Soviets being one of the world's largest producers and consequently a strong force in the industry. It is not necessary to be in sympathy with the methods of Soviet trading and competition, and one may even disagree strenuously with their ambitious plan for production and exports into the world's disturbed and declining markets during this time of depression when major producers of other countries are seeking drastic curtailment. It is foolish, however, to disregard the fact that Russia will rapidly obtain a vantage point unless there is some radical change in economic conditions within the near future, or unless she is brought into a world curtailment movement. As Professor R. C. Beckstrom said following his return to the United States from Russia, where he was chief consulting engineer for Azneft, "Nations seem to have as great a desire as individuals to buy bargains. The desire to buy 'cheap' of Russia seems greater than any desire to enquire if Russian methods are affecting the wage earners in other countries." Theories and idealisms must be set to one side and the facts plainly met. Soviet oil will be bought, and it is up to the major oil companies to take steps to induce Russia to come into line. She is now in too strong a position in the world's oil markets to be ignored.

No longer does the lack of adequate marketing facilities form a serious check to export expansion by the Soviets as financially distressed European countries are now inclined to cooperate with the Russians because they have few dollars available for American oil. While they cannot provide dollars for the Soviets they will have no difficulty in procuring or providing pumps, tanks, trucks and ships for handling Russian oils, especially as the Soviet trading authorities have made it quite clear that they are willing that the proceeds derived from the sale of Russian oils shall stay in the purchasing countries to be used in payment for machinery urgently needed by Russia. This applies particularly to Great Britain, Germany and other countries which heretofore have been among America's best customers for petroleum products. Abandonment of the gold standard means paying a premium for dollars and consequently is equivalent to an advance in the price of commodities for which dollar exchange is required.

At the present time the cost of bulk motor fuel in England is very much less than the Government tax of 16 cents with the result that the tendency among users is to feel that, regardless from whom petroleum is purchased, the greater part of the money will remain in the country and that they may as well obtain whatever benefits are to be had by buying from a country which will use the purchase money for British manufactures, thus improving internal busi-

ness conditions. Whenever American oil is sold to Great Britain or other European countries it is necessary to make payment in dollars, as the United States has little use for the machinery or other manufactured products that Europe can offer in exchange. In any case acceptance of such commodities for American oil is handicapped by the fact that they are subject to high tariffs at United States ports, and America's general exports are greater than her imports.

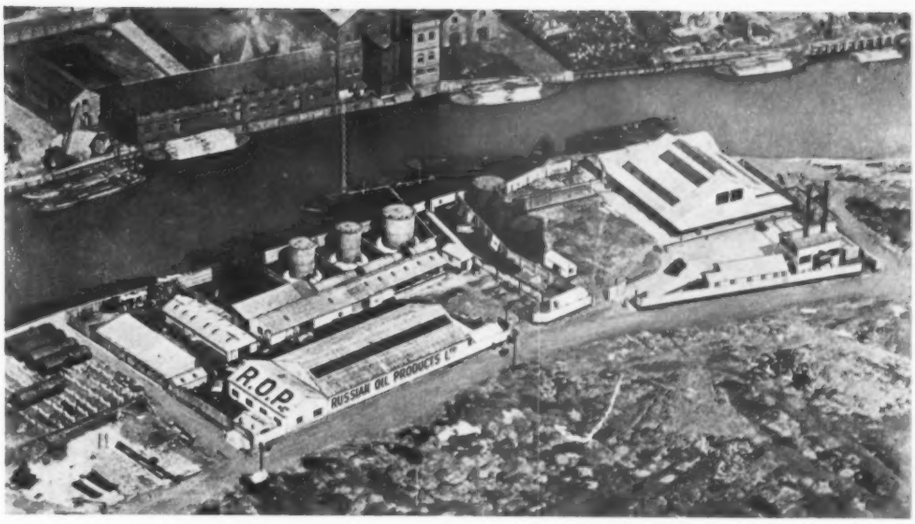
Russia, of course, is greatly interested in increasing her exports as foreign cash and credit are essential to the success of her Five-Year Plan. While overproduction in many commodities has resulted during the past few years in declining prices of oil, grain and sugar, among other things, the Soviets will continue to flood the over-supplied markets until such time as it can be demonstrated to them that they can establish equal exchange credits by a reduced sales volume under some marketing agreement. Only recently South American countries have been negotiating with the Russians to trade hides, nitrates and other products for petroleum.

Members of the petroleum industry should give due consideration not only to the weakness of the Soviet Oil Trust but also to its elements of strength. The weakness, as outlined previously, lies in the Soviets' insufficient distributing facilities in the world markets and in Russia as well as in their lack of funds to spend in countries outside of Russia, and their urgent need of additional capital for planned internal expansion.

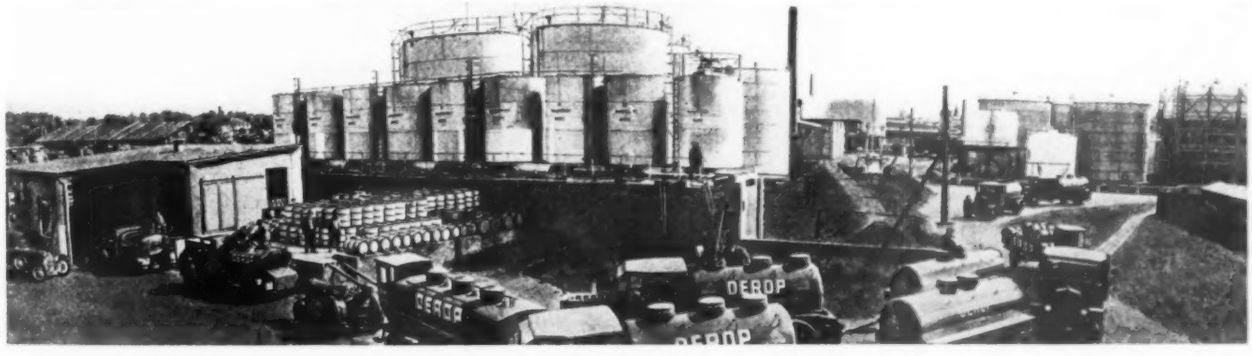
Soviet strength in the world's petroleum industry rests upon three main factors. First, the Soviet Oil Trust has a complete monopoly in Russia which is consuming approximately 75 percent of the total petroleum production. This large amount of oil products is sold internally at very high and remunerative prices. This is true particularly of kerosene sales to peasants. One can assume that the profits from the domestic monopoly at least equal the cost of petroleum products exported. In other words, the Oil Trust can easily put the cost of petroleum exports at zero. Secondly, the Soviet Oil Trust does not pay any dividends to shareholders nor interest to bondholders and can afford to be inefficient, as was recently emphasized by Stalin, and its internal organization pays no royalties, or for licenses on patented equipment that it freely copies, and no compensation ever was made for the oilfields, refineries, ships and pipelines it confiscated from former owners. Thirdly, there are at present and always have been a number of politicians of a certain type and ambitious promoters in Europe who seek to become important factors in the oil industry and who today are in a much stronger position than ever before to promote Russian oil trade within Europe. This is due to the chaotic conditions which exist in many continental countries. It is unwise to shut ones eyes and be blind to the fact that Great Britain, Germany and other nations which have been compelled to put restrictions on their dollar purchases might have very excellent reasons to substitute Soviet products for American oils. As already stated Soviet oils can virtually be traded for machinery and America does not need machinery.

In plain words, while the chaotic conditions in Europe no doubt have already done some harm to the American oil industry, as is indicated by the big drop in exports of American petroleum so far this year, these same disturbed business and financial conditions indirectly help Russia. In fact they aid Russia to the extent that some of the European Governments may even be led before long to encourage imports of Russian oil under agreements with the Soviets to spend their realizations for oil products in the purchasing countries.

Steps in this direction already are being taken by several Governments. On November 16 a new law became effective in Turkey which controls imports of oil into the country. It is the intention of the law to establish licenses for existing operating companies. There is a shortage of foreign currency in Turkey and consequently it is desired to avoid having to pay cash for large quantities of foreign products, and the trend will be to encourage importation of oils from sources that will utilize the payments internally.



Russian Oil Products petroleum distributing station and lubricating oil plant at Barking, England



Distributing depot of the Soviet petroleum organization in Berlin.

Surakan oilfields, Russia.

One of the Central European countries, Hungary, recently requested oil companies to purchase imported oil with pengos, it having entered into an agreement with Roumania and Russia to sell them machinery. This, of course, tends to block sales of American oil which must be paid for in dollars.

Perhaps the most important situation now developing in this direction is in Germany. Owing to the difficulty faced by Russia in meeting its obligations in Germany, the German Government is contemplating entering into an agreement with the Soviets whereby the latter may be permitted to repay their debts with petroleum products. In such an event the Government would find it necessary to ask distributing organizations in Germany to take the oil off its hands. This virtually means that in actual practice Standard, Royal Dutch-Shell and other companies doing business in Germany through subsidaries will have to cut down on imports and handle Russian petroleum.

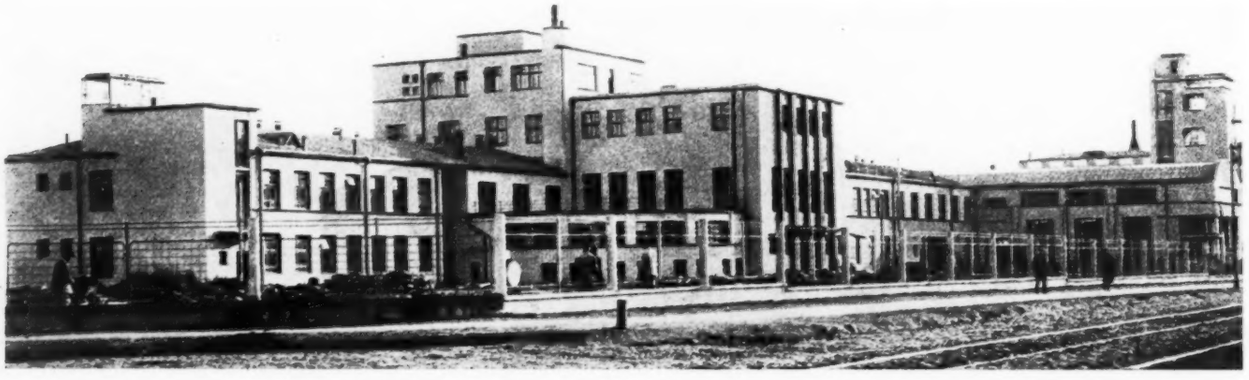
These countries are not only in the position of being short of dollars but their engineering plants are short of orders for machinery and there is much unemployment. Unfortunately for the American oil industry, the only country which seems to be in a position to take every advantage of this opportunity is Russia, as she can use machinery and can afford to sell oil products without accepting dollars in payment. If the oil industry prefers to ignore these facts they are very likely to find themselves in the same position as the big British oil companies early in 1929 when they were practically forced to make a deal with the Soviets. The outcome of this deal was that they had to give Russia a quota of 7,000,000 bbl. per year instead of the 1,500,000 bbl. which the Russians asked for in 1927.

There are two possible ways of dealing with Russian competition. One is the impractical plan of employing the British navy and the French army to keep tankships from passing through the Dardanelles so as not to let one drop of oil flow to the rest of the world. The alternate and only practical plan is to make the best possible agreement recognizing Russia's position. Purchasing contracts between the Soviets and the Standard Oil Company of New York have worked successfully for the past several years, at least to date. There is no reason to believe that if the Soviets were induced to make an agreement with the rest of the world's oil industry, that agreement would be a failure. An agreement no doubt would include buying a large quantity of Soviet oils in bulk, so as to control the retail price and maintain sales at a reasonable figure.

Careful study of oil marketing during the past few years shows that in no instance have the Russians dumped substantial quantities of oil in any of the European countries except Scandinavia. Nevertheless, there is not one country in Europe today where oil companies other than the Russians are making money; they are losing heavily in most cases. Reasons for these poor conditions are cut-throat competition, occasional dumping by countries other than Russia, and the general campaign followed by some of the leaders of major oil companies who have preferred for reasons best known to themselves to refrain from buying the very distressed cargoes that have forced them to cut their own prices. In Great Britain the Soviet organization has carried out the terms of its agreement with the big British and American oil companies in every respect.

The Soviets are much nearer to being receptive to a constructive world agreement than they were a few years ago because the lower prices that they have been receiving for all their export products have accentuated their need for money to complete the Five-Year Plan. The Soviet Oil Trust in its agreements with certain American and European oil companies already has limited its activities in several markets where they operate on a carefully defined basis to avoid cut-rate competition. It stands to reason that they will be willing to extend this policy on broader lines as part of a plan of world collaboration in order that they may increase their intake of gold and silver, or strengthen their credit, or secure desired machinery without exterior outlay of money.

Soviet oil research institute in Moscow.



Inventory Values and the Oil Industry

Universal Adoption of Some Sound Method of "Freezing" Minimum Normal Stocks Desirable to Prevent Changing Market Values from Being Reflected in Income Statement.

IN times like these wide fluctuations in inventory values of petroleum companies cause financial statements to present a misleading picture of current operating conditions. C. C. Bailey in this article presents the case for a change in bookkeeping methods of handling this subject. Certain minimum permanent inventory requirements, he points out, are essential to the operation of an oil company, as for example, oil in pipelines, etc. Establishment of a distinction between normal or necessary and excessive or speculative stocks is his proposal for setting up a more accurate standard for use in financial reports.

UNIVERSAL adoption of a minimum normal stock method for handling petroleum inventories would lessen the amounts of abnormal gains in profits during business inflation periods by perhaps as much as 25 to 50 percent and would help to avoid the excesses of inflationary periods. In similar fashion, the apparent losses which always deepen the gloom and pessimism of a depression, would be reduced substantially and the recovery to more normal conditions would be made less difficult of initiation and achievement.

Although world-wide stabilization of oil production and marketing will be delayed until the oil industry of the United States can find a way for internal cooperation, either voluntary or involuntary in character, there nevertheless has been considerable coordination of certain operating practices within the industry.

Since 1924 the American oil industry has been actively cooperating through the agency of the American Petroleum Institute in the formulation and adoption of a uniform system of accounting practice. Security holders of this group are estimated to number more than 2,250,000 and the conduct of the industry is also of public importance and concern because of the dependence thereon of large sections of the country for their prosperity, and because of the size of its payrolls which include more than 2,000,000 individuals.

These facts alone constitute ample argument and evidence as to the imperative obligation of the industry to furnish to its security holders and to the general public complete, uniform and accurate financial statements, by which the status and progress of the various companies and the group as a whole may be gauged.

The very magnitude of the petroleum industry, with its estimated capital investment of over $12,000,000,000, together with the ramifications and complexity of its operations, has made difficult and protracted the task of devising a comprehensive system of accounts, so correlated and coordinated as to be acceptable to the group as a whole. Full appreciation and credit for unremitting efforts in this work are due to those who have inspired and carried it on, particularly J. Edgar Pew, vice-president of Sun Oil Company, who was president of the American Petroleum Institute when the work was undertaken; to M. W. Mattison, the first general chairman of the A.P.I. committee; to Rodney S. Durkee, comptroller of the Socony-Vacuum Corporation, who is the present general chairman, and to the heads of the various regional sub-committees and their associates.

After several years work the report of the committee was approved by the A.P.I. in 1928 and recommended to the industry for as complete adoption by all companies as consistent with their individual requirements. This report, copies of which may be readily secured from the Institute, presents a detailed list of balance sheet and income statement accounts, with explanatory matter to be attached to the various items sufficient to enable a uniform interpretation of their significance. A gratifyingly large number of the major companies have adopted the basic principles of the report, although some variations and omissions may be noted in the published statements of several companies.

Anyone familiar with accounting problems realizes that such a classification of primary account nomenclature is not of itself sufficient to assure that the information finally assembled under these heads will be uniform and directly comparable as between different companies. Particularly is this true in such a complex field as the petroleum industry. There is, therefore, much more detailed study and effort required of the A.P.I. committee if the goal of real uniformity is to be achieved. Renewed efforts along these lines were undertaken by the Committee at the A.P.I. gatherings held in Chicago last month.

One of the important subjects discussed informally was methods of inventory accounting. In periods of rapidly falling prices, such as the oil industry has sustained during the past year, the resulting shrinkage in inventory values is of vital importance to management and stockholders especially because the accepted accounting procedure dictates that these losses be deducted directly from the earnings of the current period.

Many business executives, not only in the oil industry but also in many others, have been giving serious consideration

to this inventory problem and its effects upon their individual companies and upon the economic structure as a whole. The more they think about it the more convinced they become that certain phases of inventory handling demand at least a partial change in present accounting methods.

The following figures taken from the report of a well-known oil company for the first six months of 1931, show clearly why this problem is being given special attention this year in the oil industry. This company showed a deficit for the period, after all charges and adjustment of inventories to June 30 levels, of $4,013,000, equal to a deficit on the common stock of $1.49 a share. Included in the charges was a write-down of inventories at the end of the period of $2,940,000, or $1.09 a share, so that exclusive of this special item the deficit reported would have been $1,073,000, or 40 cents a share. This inventory adjustment, however, constituted only about 55 percent of the actual loss of profits due to the effects of declining prices upon inventories, since the report further states that a revaluation of the January 1 stocks on hand, which were approximately the same as those of June 30 in physical volume, to the basis of June 30 prices, if done entirely through an adjustment entry, would have indicated an inventory loss of about $5,303,000 or $1.97 a share. Thus, exclusive of the loss of profits occasioned directly and indirectly by the effects of lower prices upon inventories, operations for the first half would have shown a net profit of $1,290,000, equal to 46 cents a share. The net conclusion cannot be escaped that inventory shrinkage due to declining prices turned an operating profit of $1,290,000 into a reported deficit of $4,013,000.

According to the traditional point of view of finance and accounting, inventories are classified among the current or liquid assets, as opposed to the fixed or permanent assets. Broadly speaking this is a proper and accurate classification, but a simple illustration will suffice to show that a quite different conception is not only possible but entirely logical.

An oil company builds a gasoline pipe line from its refinery to one of its centers of distribution. For that line to be placed in operation there must be pumped into it enough gasoline to fill it completely, say 100,000 bbl., and as long as that line continues to function as an operating unit there will always be tied up within its length and circumference 100,000 bbl. of gasoline. This represents what may be described as a minimum normal inventory, necessary to the conduct of the business and not to be disposed of except upon liquidation of the enterprise. Viewed in this light, such an inventory is a permanent, and not an impermanent, asset; and there would seem to be little justification for showing in the company's earnings statements year after year alternate losses and profits on this fixed item, simply because the market price for this product fluctuates in response to changing relations in its open market supply and demand.

It is only a reasonable extension of this simple illustration to reach the broader conception that all operating divisions of the industry have certain minimum normal inventory requirements which will always constitute an integral part of the business as long as it continues to function.

In bringing forward this conception of the permanence of inventories, there is no intention to deny that a proper determination of just what constitutes minimum normal stocks in any particular case is a difficult practical problem. The point is quite clear that a division of the inventory problem into the two categories of minimum normal stocks and excess stocks is justified from the point of view of a going concern which does not contemplate liquidation.

To the extent that a company carries an excess inventory above its operating requirements, it is speculating, whether or not it recognizes the fact, in the prices of the commodity or commodities in which it deals. With respect to such stocks the accounting treatment should reveal in the income statement the profits or losses resulting therefrom, and present methods appear suitable for this purpose.

While it must be recognized that the exact amount of legitimate normal stocks will vary somewhat with the ebb and flow of business over a period of time, the permanence of the item in the life of the business is a practical fact which, perhaps, has not received sufficient recognition in accounting practice. During intervals when price fluctuations are comparatively narrow and gradual in their major trends, the changes in inventory values are not of sufficient comparative size to cause any great concern, but when price levels change more rapidly as in the first half of 1931 the effects of inventory losses upon earnings are very substantial, as already indicated in the reference to an oil company's report. Disregarding the losses or profits which accrue to excess stocks, let us see what basis there is for regarding the effects of changes in market values of normal inventories upon earnings, as being essentially fictitious, or unreal. When prices are falling, higher-cost inventories are being passed along in the productive process and sold at constantly lower levels, thus registering losses, or at least sharply reduced profits. At the end of the fiscal accounting period any inventories still remaining on a higher than current market basis must be written down directly and the difference charged against earnings of the period just passed.

These unprofitable sales from higher cost inventories may show a loss on the books, but since we are discussing the minimum normal stocks, not the excess stocks, it is at once apparent that replenishment of these supplies has been accomplished more cheaply in the declining market, so that on a cash basis the enterprise has come through the adverse period much better than would seem to be indicated by the earnings report. The income statement resulting in this way does not give a true picture of the efficiency of the organization as a producing, manufacturing and distributing enterprise, since its handling of its normal stocks and other regular operations was at most a relatively minor factor in causing the price movements.

When prices rise again, the process is reversed, except that sound accounting will not allow any direct writing-up of inventories and can only show a profit when it is actually taken. In such a period lower cost inventories are sold at increased profits, but the greater portion of the additional cash realization must be tied up in replenishing these normal stocks at higher prices. Thus both the peaks and valleys of the earnings record are exaggerated unduly, market prices of the securities are stimulated to fluctuate more widely, and the confidence of the permanent investor is impaired rather than encouraged.

The absurdity of the practical results of present practise is further revealed in the hypothetical case of two similar refining units whose normal crude inventories of 1,000,000 bbl. are turned over once in three months. At the beginning of a certain quarter these inventories are carried at $1 a barrel; but immediately an advance of 50 cents a barrel occurs in the price of crude which is not followed by a corresponding increase in the markets for refined products. Assuming that one of these companies suspends operations for this period waiting until the refined markets shall have become adjusted, it will report no profit for the period and will enter the next

quarter with crude inventory of 1,000,000 bbl. valued at $1 a barrel The other company consumes its $1-a-barrel inventory and reports an operating profit of perhaps $500,000; but its crude inventory at the end of the quarter consists of 1,000,000 bbl. purchased during that period at $1.50 a barrel. It is at once apparent that the reports of these companies do not give an accurate portrayal of their comparative achievement, since the apparent profit of the one which operated has been actually offset by the fact that these funds were of necessity used in the acquisition of the higher cost inventory that stands upon the books at the end of the period.

Universal adoption of some sound method of "freezing" minimum normal oil stocks so that their changing market values would not be reflected in the income statement would do much to stabilize the petroleum industry from the financial point of view, to the great benefit of all concerned. Two of the most important companies operating in the non-ferrous metal industry have been doing this for a number of years, and a brief outline of the method of one of them may prove suggestive of a satisfactory treatment of the same problem in the petroleum industry.

This metal company buys large quantities of ores from independent mines and sells the metals, which it recovers therefrom in its own plants. Since the entire process consumes at least two to three months, a very substantial inventory of goods in process is unavoidable and inventory losse could assume important proportions when prices decline. A separate inventory account covering minimum normal stocks was set up and a special reserve was appropriated from earned surplus to be used to take care of changes in market value of normal stocks, without affecting the income statement for any particular period. Insofar as is possible the company attempts to sell from its reservoir each day an amount of metal equal to the metal content of the ores which it buys on that day. Thus in effect the intake is immediately by-passed through the normal stock reservoir and out into the market, with the consequent practical elimination of the risks of inventory fluctuations as affecting profits from normal operations.

The problem of an adequate handling of inventories is purely one of practical accounting, but as indicated in the foregoing discussion it has rather far-reaching implications in the effects upon security holders and the general public. Methods of accomplishing the purposes of a minimum normal stock segregation will undoubtedly vary among different industries, but the conception of the permanence of such inventories in the life of an active enterprise is applicable in all fields, and is worthy of the serious consideration and wise judgment which it will unquestionably receive in the administrative and executive circles of the petroleum industry.

C. C. BAILEY

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Oil Exploration in Australia

IN the past twelve months about 428,661 gallons of crude oil have been secured from wells at Lakes Entrance, Victoria, Australia. Some of this has been sold and refined in Melbourne. It has proven useful as lubricating stock but contains only small percentages of lighter fractions.

It is derived from the basal portion of the Miocene formation where it rests on granitic and metamorphic bedrock, and is closely associated with artesian water. This latter causes considerable complication in development. There is an almost complete absence of "structure"; at most a slight terracing is apparent.

This production has been derived from seven wells, but none of these produce consistently in paying quantities so that Lakes Entrance field is probably negligible as a commercial producer.

On the other hand, as an indication of the petroliferous nature of the formation the discovery is of the utmost importance. If a major structure can be discovered in the Tertiary basin, which occupies an area of over 1500 square miles in this part of Victoria, a major oilfield is almost certain. There has been no compression of the earth's crust, and folding of the Californian type is improbable. The most likely type of structure is the "buried ridge" type. Palaeogeographic considerations suggest that there is more than a reasonable chance of the existence of such structures. Ordinary geological survey methods are inapplicable, as the marine Tertiaries are masked over almost the whole of the area by Pleistocene drifts.

It has been proved conclusively, however, that there exist several palaeontological marker beds within the upper 500 feet of the Tertiaries, which can be relied on for the determination of structure by shallow core drilling.

It is the opinion of Dr. W. G. Woolnought, Commonwealth Geological Adviser, that most of the exploration work to date has been rather unsatisfactory. Systematic drilling for structure has been done by the Victorian Geological Survey; but even this could have been done to better advantage. Work by individual companies has been aimed rather at immediate production than at obtaining necessary geological data.

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A Sound Policy

ANNOUNCEMENT that advertising will not be carried in the OIL BULLETIN hereafter apparently means that the California Oil and Gas Association has decided to retire from the trade paper publishing business. This step is to be warmly commended.

The association long enjoyed the dubious distinction of being the only oil organization in the world operating a competitive trade journal as a side issue and employing it to attack the independent press.

PETROLEUM WORLD has combatted this policy vigorously in the same way it would oppose any effort to put the association in the oil business, the oil well supply business or any other private commercial undertaking.

Dropping the side show leaves the Association's personnel free to concentrate on the main issue—legitimate constructive work in behalf of the oil industry of this State—the sort of program this journal will always support.

There are other signs that the Association is entering on a period of greater efficiency and responsibility. An unwieldly directorate is being reduced to practical working size and being made at the same time more responsible and effective.—PETROLEUM WORLD, *December issue.*

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Argentine Production

OFFICIAL figures issued by the Argentine Department of Mines and Geology give crude production for the first half of 1931 as 5,881,090 bbl. of which the Government produced 2,924,557 bbl. Total gasoline production in Argentina for the same period was 97,428 bbl.

Current Oil Topics Discussed By Readers

Timely Comments on Problems and Trends by Responsible Men Associated with the Petroleum Industry Published Without Editorial Endorsement Necessarily Being Given.

Kessler's World Cooperative Plan

TO THE EDITOR OF WORLD PETROLEUM:

WHILE a world-wide allocation of production is an ultimate necessity, the difficulties encountered so far in securing a domestic allocation by formal agreement among our producing States, as suggested by J. B. Aug. Kessler, do not place this country in an advantageous position in seeking to extend the allocation principle abroad. Any conference held in the near future, however educational it might be, would be necessarily preliminary and informal. The national Government could not commit any State to enforcement of the American quota, and no State could formally agree with a foreign country, without Congress's consent. Individual producers entering such an agreement would have the old question of whether or not the anti-trust laws are a bar. No one can object, however, to having the whole problem aired in a preliminary conference.

As to limitations of drilling, I think it is generally agreed that unrestricted drilling is the root of the oil industry's production problems. There is a growing movement to establish the legal principle that an oil pool is a commonly owned property and the State's police power can regulate the extent of drilling therein for the purpose of conserving and equitably apportioning its contents. I earnestly hope that the effort will be successful, but there is no such statute in force in any State at present. Any international agreement of the compacting sovereigns to prohibit drilling will necessarily await the day when the American States will undertake that policy individually.

The proposal for a State tax on drilling is comparatively new. It might be an effective method; I have not heard it discussed and am willing to see any measure attempted which will keep new fields in reserve until they are needed.

RAY LYMAN WILBUR,
Secretary of the Interior
Washington, D. C.

U. S. Cooperation Impracticable

TO THE EDITOR OF WORLD PETROLEUM:

I DO not believe that a world oil conference should be called, because I believe that the object of calling it is not practicable.

I do not believe that the United States interests should join with those of other countries in agreement until they can agree among themselves, and maybe not then.

The proposal to obtain uniform regulation by State law is, I believe, all right.

LYTLE BROWN,
Major General, Chief of Engineers.
U. S. War Department.
Washington, D. C.

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Arkansas and World Plan

TO THE EDITOR OF WORLD PETROLEUM:

I HAVE just had an opportunity to read the article in WORLD PETROLEUM by J. B. Aug. Kessler. Although I am not as familiar with the oil industry as I would like, I have attempted to absorb some information concerning it because of the interest Arkansas has.

HARVEY PARNELL,
Governor, State of Arkansas.
Little Rock, Arkansas.

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Cooperation Ideal, But Impractical

TO THE EDITOR OF WORLD PETROLEUM:

I HAVE read J. B. Aug. Kessler's article and I think, in the main, he has the right idea, that is, some kind of stabilization by agreements will be necessary. I am afraid, however, that his plan would not be practical in this country.

J. EDGAR PEW,
Vice President,
Sun Oil Company.
Philadelphia, Pennsylvania.

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Needs Careful Analysis

TO THE EDITOR OF WORLD PETROLEUM:

ON first reading, J. B. Aug. Kessler's article appears too idealistic for general acceptance. I feel that before commending or criticizing his suggestions, they should have more careful analysis.

R. G. STEWART,
President,
Pan-American Petroleum
and Transport Company.
New York City.

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Influence of Local Situation

TO THE EDITOR OF WORLD PETROLEUM:

I HAVE read with interest J. B. Aug. Kessler's proposal for an international conference, as it appeared in the October issue of WORLD PETROLEUM. Being almost totally a domestic company, I do not feel that any comments I could make would have a bearing on the subject he discusses. I am more concerned at the present time in seeing our local situation cured.

D. J. MORAN,
President,
Continental Oil Company.
Ponca City, Oklahoma.

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Considers U. S. Participation Illegal

TO THE EDITOR OF WORLD PETROLEUM:

J. B. AUG. KESSLER'S world-wide conferences have been considered many times; but, as it is illegal for any producers to agree on anything in the United States, I do not see how they can take part in a world conference without taking some risk of getting into trouble. It would seem that a discussion of such matters at this time is therefore more or less academical.

C. E. MEYER,
President,
Standard Oil Company
New York, N. Y. of New York.

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Kessler Plan Is Involved

TO THE EDITOR OF WORLD PETROLEUM:

THE article written by J. B. Aug. Kessler is one that is quite involved from a great many angles and requires considerable study. For this reason I hesitate to express any view on the article.

E. G. SEUBERT,
President,
Standard Oil Company
Chicago, Illinois. (Indiana).

Situation Appears Hopeless

TO THE EDITOR OF WORLD PETROLEUM:

I HAVE given up as hopeless any idea that the necessary cooperative steps will be undertaken to rectify obviously unsatisfactory existing conditions.

MARK L. REQUA.

Santa Barbara, Cal.

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Russia and World Cooperation

TO THE EDITOR OF WORLD PETROLEUM:

ANY plan which, if adopted, will tend to stabilize the petroleum industry, deserves serious consideration. As J. B. Aug. Kessler points out, "most members of the oil industry, if not all, realize that something must be done to improve conditions." Mr. Kessler not only realizes it, but has gone to a considerable length in offering a definite plan.

A number of statements made by Mr. Kessler will doubtless receive wide acceptance. Consequently I will confine my remarks to those proposals of his which are obviously contradictory, debatable, or founded on entirely false premises.

FIRST: There is no doubt that any arrangement to be satisfactory must be on a worldwide scale. Mr. Kessler so states in one of the introductory paragraphs of his article. Yet a few paragraphs beyond he states,—

"Russia stands by itself. Under the plan I am proposing there is hardly room for Russia. It is not considered necessary that they should come in because of their increasing local consumption and the slight possibility that they will be able to increase their production considerably."

An obvious contradiction of his first important premise and a conclusion based upon entirely false premises. It is shown in a graph in Mr. Kessler's article in the September issue of WORLD PETROLEUM, page 539, that Russian *exports* are not far behind Roumanian *production* for the period under review. Why exclude Russia from a plan purporting to be cooperative and world wide?

SECOND: Mr. Kessler says, "Persia, Colombia, Egypt and the Dutch East Indies including Sarawak have never indulged in overproduction." What constitutes overproduction and what determines which countries have overproduced? If production in excess of one's respective market requirements constitutes overproduction then every important oil producing country in the world is culpable. Apart from natural causes, basic factors inducing overproduction are. (a) The failure to coordinate marketing to markets, and (b) The arbitrary disinclination to let cost of production normally influence the price of the product. The result has been clear to all. Low and high cost producers are scrambling for each others markets the world over to dispose of products, wittingly produced far in excess of their market requirements.

THIRD: The suggested appointment by the oil industry in each of the countries of "fully authorized representatives for an international meeting" is most desirable. However, I know of but one country where such appointments could be accomplished and have them mean anything, i. e. Russia. The demoralized state of the oil industry in the United States is adequate evidence that the conflicting interests here would have serious difficulty in coming to an agreement on the appointment of "*fully authorized* representatives" and I can hardly picture "*fully authorized* representatives" from Venezuela or Roumania unless perchance, each company interested sent its own representative!

FOURTH: Mr. Kessler suggests that oil industrialists in each of the three countries mentioned (United States, Venezuela and Roumania) undertake to get their respective Governments to prohibit drilling altogether, or alternatively to put a tax of at least $30 per foot on each foot drilled etc. I believe that many would hold that such a prohibition would be unconstitutional in the United States as an infringement of "States Rights," and it seems doubtful if legislation along such lines would be enacted by State legislatures.

FIFTH: Mr. Kessler's suggested tax of eight cents per barrel on all oil produced in the three countries mentioned (United States, Venezuela and Roumania) in order to pay 20 cents or 40 cents per barrel to producers who hold their production under the "declared minimum" is tantamount to asking these same producers to curtail their "declared minimum" production by from 28.6 percent to 16.7 percent depending upon whether the premium for underproduction under the "declared minimum" be 20 cents or 40 cents per barrel.

SIXTH: Assuming objections 2, 3 and 4 all could be met and assuming further that the world oil industry (excepting Russia) declared in favor of Mr. Kessler's proposal and put the same into effect, the obvious result would be that the world's markets would be somewhat improved for the benefit of whom?—Russia and Russian petroleum exports. To say that, "It is not considered necessary that they (Russia) should come in because of their increasing local consumption and the slight possibility that they will be able to increase their production considerably" is woefully to delude oneself and others. My recent personal investigation of the Russian oil industry in Russia convinced me beyond peradventure of a doubt that the potentialities of Russian oil production are enormous. The rate of increase in the development of the Russian petroleum industry depends on factors entirely within the power of Russia ultimately to control, i.e., adequate and properly trained personnel, and efficient equipment. If in addition to Russia's natural advantages of supply one considers that under the Soviet regime the cost of producing Russian oil from the point of view of the competitor is practically nil, one must realize that any plan for world cooperation which excludes Russia is doomed to failure. For while the plan is working to keep the rest of the world in line, Russia will flood the markets of Europe with oil. Worldwide cooperation must be in fact worldwide if it is to evoke a solution of the oil industry's difficulties.

HOWLAND BANCROFT.

Great Neck, L. I.

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Australian Oil Exploration

TO THE EDITOR OF WORLD PETROLEUM:

IN the August, 1931 issue of WORLD PETROLEUM, page 470, you published a paragraph dealing with Dr. W. G. Woolnough's stand on the importance of modern American drilling equipment and thorough geological and geophysical practice in Australia's search for oil.

In writing you, we would like you to comprehend fully that we are particularly friendly with Dr. Woolnough, and that, from the point of view of actual prospecting work and capital, we believe we may faithfully claim to be the largest oil prospecting company in Australia.

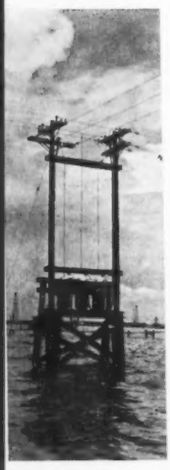
We have been guilty of criticising Dr. Woolnough, but mostly through his department and to himself, and not by innuendo in the press. We have no complaint to make respecting him and his criticisms, other than that we hold the opinion that he generalizes in his destructive criticism and includes everybody, with a few "honorable exceptions." We thought, however, that his publicity would be confined to Australia; hence, our surprise on reading something the same sort of criticism in your valuable journal.

Now, we take the view that we have and are using modern American rotary drilling equipment and modern Ameri-

(Continued on page 680)

Lago's new power plant at Punta Gorda, Lake Maracaibo.

Lago Electrifies Its Venezuelan Fields



Lagunillas substation

Replacing Small Steam Units on Lake Maracaibo with a Central Electric Installation as a Measure of Economy, Described by E. E. Thomas of the General Electric Company.

INITIAL oil production by the Lago Petroleum Corporation in their extensive water covered concessions on Lake Maracaibo, Venezuela, was started near La Rosa, in the year 1923 and extended north and south along the east shore of the lake from Ambrosio to Lagunillas until an oil production of approximately 100,000 bbl. per day was secured by the end of the year 1928. Electric power not then being available for drilling, such production obviously required the use of a large number of field boiler stations, supported on piles and connected to the derrick platforms by means of catwalks, also supported on piles. Such structures have been found expensive to install and maintain; also the field boilers and fittings require frequent and expensive maintenance owing to the poor quality of lake water available for them.

A preliminary study of electrification was made in 1926, but the development of the area then had not progressed sufficiently to assure proven oil fields which would warrant extensive capital investment for a central power plant and other electrical equipment. The geological data later accumulated in this area established a group of proven oil fields on an extensive basis.

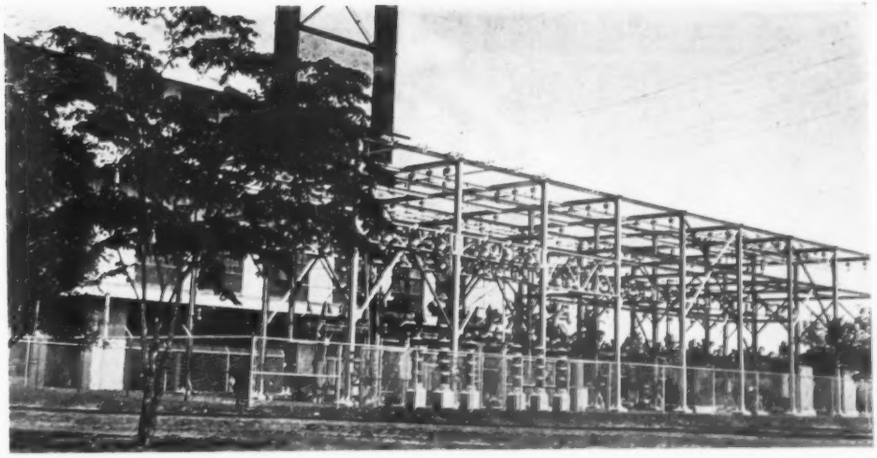
A final study of the situation was made jointly by engineers representing the Lago Petroleum Corporation during the latter part of 1928 and the early part of 1929. This study showed that considerable economy could be effected by electrification. Work on the initial installation was started in the latter part of 1929.

Design of the power plant and distribution system, as well as preparation of specifications for equipment, were handled by the J. G. White Engineering Corporation in cooperation with W. R. Finney of the Lago Petroleum Corporation. Field construction was handled by the Lago organization, with the exception of steel and concrete work, for which contracts were let.

Although some considerations were in favor of Lagunillas as a location for the power plant, Punta Gorda was chosen for a number of reasons, some being the suitable nature of the terrain and the ease of securing circulating water for the condensers. Such a decision was fortunate since the Punta Gorda site has proven to be a very satisfactory location, while the possible plant sites in the Lagunillas area show a subsidence.

From the inception of the electrification program until the final completion of the plant with the necessary distributing system, it was recognized that the investments and resulting operating charges would be almost 50 percent higher than for similar projects in the United States. This is caused by the delay and expense of delivering material to points so far away from the manufacturing centers and the difficulties of handling construction work in a tropical country. However, material reduction in general operating costs is being realized.

At points transmission lines are submerged to allow passage of ships.



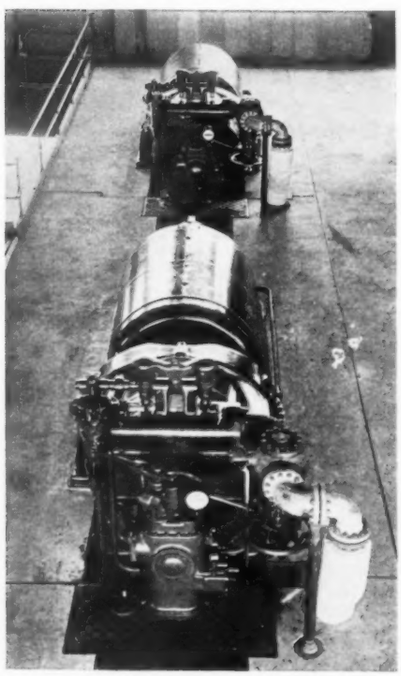
Main sub-station at Punta Gorda power plant.

Design characteristics of the power plant were chosen primarily for a reliable installation of moderate economy. A high economy power plant was not justified owing to the use of natural gas as fuel, such fuel having no market in this territory. Hence, relatively simple design was adopted using moderate pressures and temperatures, and bearing in mind that continuity of service always is the most important consideration. A 5,000 k.w. plant in two units was designed, but arranged for future extension, that is, building space was provided for a third unit which would bring the capacity up to 10,000 k.w.

Initial installation included two General Electric turbine generator units, each being rated 2.500 k.w. (3,125 kv-a. at 0.8 p-f.), 6,900 volts, 3,600 r.p.m., three-phase, 60 cycles, and for operation under initial steam condition of 275 lb. per sq. in. and 150 deg. Fahr. superheat, but good for operation with 300 lb. steam pressure, 650 deg. Fahr. total temperature and arranged for limited steam extraction for boiler feedwater heating purposes. These machines are equipped with direct connected exciters, emergency excitation being furnished by a 50 k.w. steam turbine standby unit. In operation is a multi-panel air filter having normal capacity of 19,600 c.f.m. for cleaning the cooling air for these generators. Fire protection for the generators has been provided by means of the Lux system.

These units were equipped with 5,500 sq. ft. Westinghouse two-pass straight-flow surface condensers having corrosive resisting metal tube sheets and Admiralty tubes. Each will condense 35,000 lb. of steam per hour at 27 inches of vacuum with 6,000 g.p.m. of lake water at 95 deg. Fahr. Also, auxiliaries for the condensing equipment were furnished by the same manufacturer. There is a 440 volt flush front steel switchboard for controlling these auxiliaries as well as other equipment in the power plant. Continuity of all power plant pump service has been safeguarded by means of the dual steam-electric system which, also, provides flexibility in the power plant heat balance.

Two main turbines at Punta Gorda power station.



Two motor-driven traveling water screens (capacity 12,000 g.p.m. each) were installed in the condenser circulating water intake flume. This flume was extended several hundred feet into the lake for securing comparatively clean water, and was designed to supply all of the water required when the plant has been extended to 10,000 k.w. capacity. The lake water was analyzed and found to be brackish and corrosive, which means that due care must be exercised when selecting suitable materials for condensers, pumps, deaerators, etc.

The initial installation included two Babcock and Wilcox, 717 b.hp. cross-drum, straight tube vertical sectional steel header, water tube boilers for 300 lb. steam working pressure, each of 7,172 sq. ft. heating surface. Each boiler was equipped with an 1,838 sq. ft. superheater and can deliver 52,000 lb. of steam per hour at 275 lb. pressure and 570 deg. Fahr. total temperature when supplied with water at 200 deg. Fahr. temperature. Also, each boiler was equipped with eight Forney combination gas and mechanical atomizing oil burners with separate gas and oil burner tubes with tips. It was decided to use the suspended air-cooled furnace wall design suitable for an output of 900 b.hp. when firing natural gas at eight pounds per sq. in. gauge pressure with natural draft equal to 0.2 in. of water. The fuel oil equipment was intended for emergency or stand-by service only.

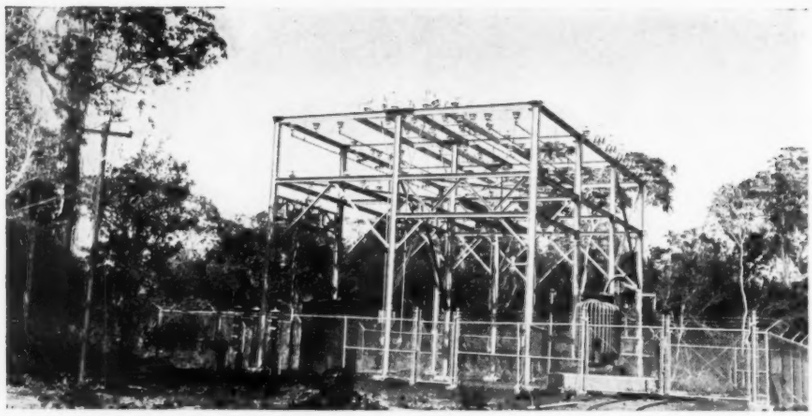
The power plant design was arranged for returning all of the condensate to the boilers through a deaerating heater which is of 100,000 lb. capacity, the boiler feed make-up water being supplied by means of a single two effect 7,500 lb. per hour evaporator plant. This evaporator also supplies drinking water for the camp.

All power is generated at 6.900 volts and stepped up to 33,000 volts at the substation located adjacent to the Punta Gorda power plant. Each generator and its step-up transformer are treated as a unit; that is, no generator bus is used, but they are paralleled on the 33,000 volt side of these 3,125 kv-a. three-phase, oil-insulated, self-cooled transformers at the Punta Gorda substation double bus. Power plant auxiliary power is being supplied through two 300 kv-a.33,000/460 volt three-phase transformers, one being a spare to assure continuity of service.

Generator and auxiliary power transformers are connected through 37 k.v. outdoor automatic oil circuit breakers to the substation double bus and are controlled from a steel panel switchboard in the engine room. This equipment includes differential protection against internal faults which may possibly develop in the generators or transformers.

This substation includes a 250 kv-a.-33,000 volts Y to 2.300/6,900 volts delta three-phase transformer for serving wells and flow stations in the immediate Lake area, and a 500 kv-a.-33,000 volts Y to 6,900/2,300 volts delta three-phase transformer for serving main line pumps. These transformers are protected by fuses on the high voltage side and are controlled by automatic oil circuit breakers on the feeder side. Such 7,500 volt breakers are mounted in outdoor switch houses, but are controlled from the engine room switchboard mentioned above. Also, this switchboard

Power line runs through cutting in the jungle.



Sub-station at Punta Tamare.

controls two 37 kv. outdoor automatic oil circuit breakers which connect the Punta Gorda substation double bus to the double circuit transmission line.

All of the oil circuit breakers in this substation are electrically operated and equipped with direct current automatic overload trip, since the adjacent power house contains a 125 volt storage battery for supplying control circuit power. A suitable motor generator set provides trickle charge for this battery.

Power plant water intake and screen well.

Oil circuit breakers in all other substations are equipped with alternating current automatic overload trip and are manually operated. Such equipment is self-contained in outdoor steel switch houses. Each of these control units is connected on the feeder side of a transformer, noting that there are 1—250 kv-a.; 5—500 kv-a.; 4—1,000 kv-a., and 1—1,500 kv-a. 33,000 volts Y to 6,900/2,300 volts delta three-phase, 60 cycle transformers distributed between the outlying substations. All power transformers, which are of the oil-insulated, self-cooled design, also oil circuit breakers and main control equipment were constructed by the General Electric Company, as well as motor drive and distribution transformers for camp service and movement of oil.

The double circuit main transmission line starts from Punta Gorda substation and extends north to La Salina and south to Lagunillas, a total length of approximately 23½ miles. It is a creosoted wood pole line, well guyed and of the conventional three-arm construction; that is, with one three-wire circuit on either side of the pole. These circuits are supported on pin type insulators except at road crossings, where semi-dead end strain insulator construction prevails. Local experience indicates that creosoted wood poles will have a satisfactory life.

Special attention was given to secure a conservative design to counteract effects from formation of alkaline dust on the insulators, which might otherwise give trouble when moistened by rain. The right-of-way for this double circuit 33,000 volt transmission line was located several hundred feet east of the east shore of the Lake and required much cutting in the tropical jungle.

This line serves substations at Punta Gorda, La Salina, Ule, Punta Tamare and Lagunillas. At these points power is transformed down to 2,300 volts for land stations and 6,900 volts for Lake circuits. All of these substations are of modern steel and double bus construction, equipped with manually operated disconnecting switches and include sectionalizing switches for the transmission line. The substations are located along the shore of Lake Maracaibo and are connected by spur tracks to the company's meter gauge railway which runs between their camps at La Salina and Lagunillas. In this way, all of these transformers may be switched about in accordance with load requirements or taken to the service shop for maintenance purposes.

The line side of the main substation feeder transformers has been fused for overload protection; but provision has been made in substation structure for installation of oil circuit breakers at some future date. They would be required for giving selectivity under future conditions when the development in the Lake may require a network system for power distribution. The transmission line was equipped with a ground wire and outdoor lightning arresters were installed at each substation. This type of construction should give ample protection against lightning and other disturbances, thus assuring continuity of service.

Electrified pipe line pump at Punta Gorda tank farm.

At La Salina a 6,900 volt, single circuit, creosoted wood pole line has been constructed out into the Lake to serve the gas lift compressor stations, gas plant, water pump, flow stations and future wells in La Rosa oil fields. A 6,900 volt, double circuit, power line has been built into the Lagunillas Lake area with single circuits running north and south past the main line of flow stations. These circuits, besides serving flow stations, will also serve gas plants and water stations and still have capacity to handle several gas lift compressors which may be installed in the near future. In all cases, submarine cables were used for crossing ship lanes. Building power lines over the Lake presented several problems owing to soft bottom and heavy wave action, but the group of creosoted wood piles with batter for supporting a single center creosoted wood pole seem to be satisfactory. About 12 miles of such construction has

Traveling screens in condenser water intake in power plant.

been completed to date. A less expensive structure may be used in the future.

Single phase 6,900/460 volt transformers were used at these stations located in the Lake owing to less weight to be handled from wharf to barge and barge to transformer station platform. Flexibility in operation is secured since single phase transformers may be connected in open delta.

The new power plant was placed in active service about May 1, 1931, when all shop and camp loads were transferred to it. The first Lake tanker was loaded with a motor driven pump at La Salina on May 1, 1931, and similar pumps were placed in service at Lagunillas on the following day and since then electrically driven pumps have been used for all such work. When loading four pumps aggregating 12,000 bbl. per hour capacity are used. In June, electrical power was applied to pumps at flow stations, pipeline pumps, water stations, gas plants, refinery pumps, ice plants, pier hoists, and motor-driven gas compressors for gas lift purposes. The load has built up to the capacity of one 2,500 k.w. unit. In fact, it has become necessary to dispatch operation in such a way as to improve the load factor so that the second 2,500 k.w. unit may be held for emergency use only. Although the plant has been in operation for only about half a year, the load may increase to such an extent that it will be necessary to double the size of the power plant. Installation of seven 300 hp. synchronous motor-driven compressors for gas lift purposes has improved the power factor to such an extent that it is now approximately 95 percent, which improves operating conditions for generators.

Total connected motor load is 8,285 hp., all of which consists of induction motors, except those indicated above. There are eight 300 hp. induction motors driving centrifugal pumps for shiploading purposes; six 75 hp. induction motors connected to duplex reciprocating pumps for pipeline duty as well as thirteen 50 hp. and fifteen 25 hp. motors connected to duplex reciprocating pumps which are mounted on platforms in the Lake for flow station duty. The motors in shiploading and pipeline service operate at 2,200 volts, but all other induction motors operate at 440 volts. In general, one may state that all induction motors rated 100 hp. and under are for full line voltage starting duty using push button magnetic starting equipment.

During the early study of power requirements, pumping of individual wells

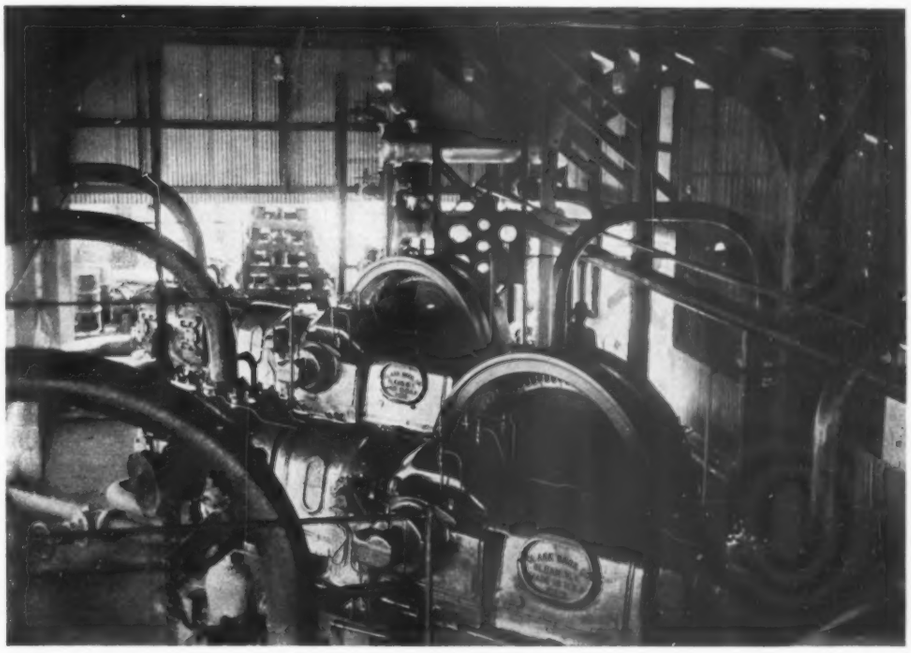
Transmission lines for Lago's lake operations.

was given careful consideration. As the program progressed, it was evident that cost of pumping wells was relatively high when compared to production from flowing wells, due mainly to soft sand conditions. When the wells ceased to flow some aid was needed to prolong production so gas lift was tried out using high pressure gas from flowing wells that would otherwise go to waste. This was so successful that motor driven compressors were installed to augment the supply of high pressure gas. Possibly the long life of producing wells by the lift method may be due to the continued submergence caused by subsidence. The conclusion must be that economical production of oil in these fields will be due to a combination of flowing wells, gas lift operations, and motor-driven pumping jacks.

Compressors for gas lift duty consist of three 2-stage 5 to 450 lb. gauge and four single stage, 150 to 450 lb. gauge pressure units of opposed cylinder design. These compressors have two opposed cylinders for balancing the inertia forces which occur in compressors of conventional design. Cylinders are interchangeable so that these compressors may be used for either single or two stage depending upon field requirements. The high pressure piston is weighted so that it has the same weight as the low pressure piston and consequently they give the same reciprocating forces. A suitable flywheel is located between the motor and the compressor for the purpose of keeping line current pulsations within the usual commercial limits. Clark Bros. Company especially designed the compressors for the work. Each unit is mounted on a heavy steel base to make it as rigid as possible. The foundations are comparatively flexible owing to conditions inherent to a platform mounted upon piles in the lake.

Each compressor is direct connected to a 300 hp. 225 r.p.m., 2,200 volt, unity P.F. synchronous motor for full voltage starting duty. Owing to the proximity of natural gas, these motors are equipped with enclosed collectors which are pipe ventilated so as to minimize the possibility of an explosion. The exciters for these motors are driven by squirrel cage induction motors. Each exciter is of the enclosed pipe ventilated design for use under gaseous atmospheric conditions. The motor control is arranged so that the compressor driving motor is disconnected from the line in case its blower fails to maintain positive pressure within the collector ring enclosure.

Interior of compressor plant at La Rosa.



British Petroleum Imports Decline

LONDON.

STATISTICS for the first nine months of 1931 indicate that Great Britain will reverse her tendency to increase turnover and consumption of petroleum this year. Imports of crude and refined petroleum products into Great Britian decreased in the first three quarters of 1931 by 186,822,000 Imperial gallons compared with imports for the corresponding period of 1930. Crude imports showed a decline of about 16 percent and refined products about eight percent.

Comparative Imports Into Great Britain January 1 to September 30, 1930 and 1931

Product	1930 (Imp. Gal.)	1931 (Imp. Gal.)
Crude	351,929,000	292,160,000
Kerosene	189,333,000	199,927,000
Other spirit	14,553,000	15,602,000
Lubricating oil	77,787,000	71,366,000
Gas oil	111,509,000	60,025,000
Fuel oil	371,952,000	367,234,000
Gasoline	766,245,000	690,099,000
Other products	77,000	150,000
Total	1,883,385,000	1,696,563,000

The decline in importation of crude, proportionately greater than that of refined products, shows a tendency to bring petroleum into the United Kingdom in its refined state in spite of the extension of refining facilities in this country in recent years. Re-exports show a considerable decrease amounting to 6,689,084 Imperial gal. from the first three-quarters of 1930 and 26,907,867 gal. from the first three-quarters of 1929. This reduction in oil re-exports follows the continued shrinkage of all business.

Only an estimate of domestic consumption is possible for the period under consideration but it is evident that consumption has decreased or stocks have been drawn upon heavily. Assuming stocks have remained constant, consumption has declined by about eight percent.

Imports of crude and petroleum products for October, 1931, amounted to 198,800,557 Imperial gallons, compared with 204,780,090 in October, 1930.

Comparative British Imports, Exports, and Consumption

First Nine Months of 1930 and 1931

	1930 (Imp. Gal.)	1931 (Imp. Gal.)
Imports		
Crude	351,900,000	292,200,000
Refined	1,531,500,000	1,404,400,000
Gross imports	1,883,400,000	1,696,600,000
Less re-exports	57,700,000	51,000,000
Net imports	1,825,700,000	1,645,600,000
Less exports of U. K. refined products	81,400,000	50,500,000
Apparent consumption	1,744,300,000	1,595,100,000

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Current Oil Topics

(Continued from Page 675)

can drillers. We know from our experience, that at the mechanical end our American technicians have done some of the most intricate drilling, cementing, fishing and shooting jobs possible to encounter.

From the geological side, Dr. Woolnough admits that we have in charge of this department one of Australia's geological geniuses. Therefore his criticism does not apply to our companies. As for geophysical research, our group of companies has spent over £40,000 to prove the limitations of geophysics, because we got no more for our money. It is obvious, then, that such criticism as relates to geophysical research cannot apply to us.

We are reluctant to think that Dr. Woolnough generalizes with any idea in his mind to damage our prestige; but, according to his explanation, he states that he in his position cannot individualize. Nevertheless, we are a subject of this criticism, unfair to us throughout the publications which contain his story.

As for the rumours that have been distributed to the effect that American oil interests are engaged in wilful sabotage of Australia's oil wells for their own interests, the foundation of this was laid many years ago, when an American driller attempted to shoot some lost tools loose in a potential oil well, and junked the hole. That it was done in pure ignorance there is no doubt in the minds of those who know anything of the technique of drilling for oil, but to the uninitiated such an accident looked as if it was a wilful attempt to destroy a potential oil well.

Quite apart from the fact that we find it hard to believe that any organization would descend to wilful sabotage, it is a practical impossibility in Australia, as there are too many engaged in the search for oil. We are not writing this letter with the idea of vindictiveness or as a counter attack on Dr. Woolnough, but we do think we have the right of vindicating ourselves in the eyes of the oil world.

R. HENZELL
Manager, Australia Roma Oil Ltd.
Brisbane, Australia.

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Transportation of Oil

To the Editor of WORLD PETROLEUM:

I have very carefully gone through each article in your November issue and I think it is a most wonderful number. It is a very able epitome of the whole petroleum subject, particularly the transportation phase. I congratulate you on your work, and the whole industrial world owes you a debt of gratitude for what you have done.

W. S. BENSON, Rear Admiral, Rtd.
Washington, D. C.

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News and Notes

MEDITTERANEAN PIPELINES, LTD. has been formed in Canada to construct and operate the new pipe line from the Iraq oil fields to the Mediterranean.

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According to the Minister of Production, the Chilean Government is considering a plan to erect an oil refinery at Valparaiso.

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During the next three years Russia plans to build a total of 3,500 kilometers of pipeline for refined and crude oils, mostly 12 inch diameter.

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Under the direction of M. Szydlowski, former Polish Minister of Commerce, ar endeavor is being made to reorganize the petroleum industry of Poland. It is planned to form an organization to handle all branches of the domestic and export trade.

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Oil producers were given an opportunity to place evidence before the United States Tariff Commission, headed by Henry P. Fletcher, during hearings closing October 29. No evidence for or against the tariff on petroleum and petroleum products was presented at the hearings. The Commission is now ready to draft a report on the status of the petroleum industry which will be presented to Congress.

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Supreme Court Supports State Conservation

Holds That California Act Forbidding Unreasonable Waste of Natural Gas in Oil Recovery Is Enforceable–Direct Restriction of Production Not Involved.

IN a decision handed down on November 23 the Supreme Court of the United States carried a step further the process of defining the authority of the States to control the use of natural resources within their borders. The case at issue involved the California statute forbidding the waste of natural gas in recovering petroleum. It grew out of an injunction issued by the Superior Court of California against Bandini Petroleum Company et al in September 1929, restraining them from unreasonable waste of gas in their operations in the Santa Fe Springs field. The district court of appeal and the Supreme Court of California supported the position of the Superior Court and an appeal then was taken to the United States Supreme Court.

The appelant company asked for a writ prohibiting the Superior Court from maintaining its injunction and based its appeal on three points. The claim was set up that the California statute did not sufficiently define "unreasonable waste" and unlawfully delegated to the Superior Court power to legislate upon that subject, that the statute as enforced against them impaired the obligation of their lease contracts in violation of the contract clause of the statute requiring curtailment of gas "for the purpose of conserving such natural gas for the benefit of the general public" was in excess of the power of the State.

In its decision, delivered by Chief Justice Hughes, the court reviewed the rulings of the California courts and affirmed their judgment. In regard to the claim that the prohibition against "unreasonable waste" of natural gas was too vague to provide a proper basis for judicial rulings, the Court quoted extensively from the findings of the Supreme Court of California in which it was pointed out that no general rule could be laid down as to the quantity of gas necessary to be released to obtain maximum recovery of oil under all conditions but that "each oil and gas well has a best mean oil and gas ratio in the utilization of the lifting power of the gas and the production of the greatest quantity of oil in proportion to the amount of gas so utilized, which may be computed as to each individual well to a reasonable degree of certainty and be regulated accordingly."

After quoting further the conclusion of the Supreme Court of California that an unreasonable waste of gas may be said to exist where it "has been allowed to come to the surface without its lifting power having been utilized to produce the greatest quantity of oil in proportion," the Chief Justice said:

"The statute is to be read with the construction placed upon it by the State court. And, so read, we find no ground for concluding that the statute should be regarded as invalid upon its face, merely by reason of uncertainty so as to deprive the Superior Court of jurisdiction to consider the relevant questions of fact and to determine with respect to a particular field whether or not there has been an unreasonable waste of gas which the statute condemns."

This question of definition was held by lawyers and State conservation authorities to be of vital importance to State regulation of petroleum production. Because of the manifest impossibility of including in State laws the exact gas-oil ratio to be applied to different fields and under varying conditions a denial of court authority to determine unreasonable waste on the facts presented in each case would have rendered ineffective in their opinion, State conservation laws based upon the prevention of waste. This phase of the Supreme Court decision, therefore, is accepted as strengthening the position of the States in applying measures of conservation.

On the question whether the State had exceeded its powers in setting up the scheme of statutory regulation the Court reviewed the opinion of the District Court of Appeal that the authority of the State Legislature to restrict the production of oil was not involved.

Discussing the question whether the correlative rights of suface owners were involved in the case the Court said:

"If the statute be viewed as one regulating the exercise of the correlative rights of surface owners with respect to a common source of supply of oil and gas, the conclusion that the statute is valid upon its face, that is, considered apart from any attempted application of it in administration which might violate constitutional right, is fully supported by the decisions of this court.

"In that aspect, the statute unquestionably has a valid operation, and it cannot be said that the superior court was without jurisdiction to entertain the suit in which the injunction order was granted. That was all that the District Court of Appeals determined in the judgment now under review. It is not necessary to go further and to deal with contentions not suitably raised by the record before us. Constitutional questions are not to to be dealt with abstractly. Having jurisdiction of the suit the Superior Court had authority to take steps to protect the subject matter of the action pending the trial on the merits."

While the Court specifically states that the question of State authority to limit oil production directly is not involved in the case before it the remarks on the subject of correlative rights seem to suggest that it is within the province of the States to legislate for protection of the common rights of surface owners in the deposits underlying their holdings.

(For comments see page 690)

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International Standardization

TO secure international collaboration for the purpose of obtaining greater uniformity in methods of testing petroleum products, such as gasoline, lubricating oil and fuel oil, 21 leading industrial countries have been invited to participate in the work of standardization by the International Standards Association. Austria, France, Germany, Japan, Holland, Hungary, Switzerland, Russia and the United States have already indicated in an official way, their desire to participate in the work. The A.P.I. has appointed Dr. R. P. Anderson as its representative on the international committee.

Water White Color in Motor Fuel

Last of a Series of Three Articles Based on the Result of Questionnaires Sent to a Large Number of United States Refiners.

By P. Truesdell, G. Egloff and J. C. Morrel

A good many refining and marketing companies have reduced the acid treatment of their gasoline on the basis that it is not required to make it water white, and instead are putting out gasoline dyed a definite color. In many cases this satisfies the public. There are also a number of companies who still follow the policy of treating all their gasoline to water whiteness, and some of them state that they do not find the cost of doing this excessive.

Most of the refiners, however, are in sympathy with efforts to educate jobber and consumer to accept gasoline on the basis of what it will do in the automobile engine rather than what it looks like in the glass bowl of a visible pump. The influence of the "visible" type of gasoline pump on the public's notions about color was mentioned and discussed in many of the answers to the color questionnaire.

Some companies say that the advent of the visible pump is the principal reason for the public's solicitude for water-white color. It is stated in some of the letters that visible pumps are being displaced to a considerable extent by meter dispensers in which the motorist does not see the gasoline.

If the motorist could not see the motor fuel before it goes into his tank it is unlikely that he would worry about the color. A Mid-Continent refiner sees little hope of getting away from needless treating of gasoline as long as visible pumps exist.

An executive of a refining and marketing company on the eastern seaboard cites an example:

"Where there are several visible pumps at a station, with bowls full of gasoline, sometimes the gasoline in a newly filled bowl will be water white while that which has been standing for some time in another bowl will have a yellowish tinge. Almost invariably the motorist will wait till he can be served from the pump showing the water-white product rather than take immediate service from the bowl in which the fuel is yellow."

Another large refining company on the Atlantic coast reports:

"We have no definite evidence that the public will not accept gasoline of 16 plus or minus color; but our reaction is that there would be some trouble in marketing it especially through visible pump equipment."

A refiner with a large plant on the Pacific coast discusses the matter as follows:

"Were it not for the fact that competition has forced the installation of visible pumps, we do not believe the motorists would really care whether the gasoline was water-white or not as they would seldom actually see it.

"But with the visible pump the better psychological effect of a water white or crystal clear gasoline alongside of a darker colored one, say as low as 16 color Saybolt, cannot be ignored and it is doubtful in our judgment if it can be overcome to the extent that the customer would not prefer the clear product, other conditions being equal."

And a Mid-Continent refiner, in a similar discussion of the color demands made by the motorist, says:

"The visible pumps make it possible for the customer to make such demands."

Another feature in connection with the effect of visible pumps on gasoline color is brought out in some of the letters. This is, that sometimes the bowls of visible pumps get dirty on the inside, giving to the gasoline they contain an unattractive color which it does not deserve.

A refining and marketing executive of a large company distributing gasoline in many sections of the country writes:

"Our experience indicates that the public is more and more watching visible pump bowls, for we have received complaints about dirty bowls occasionally."

Another refiner in the same region cites similar experience in his case. He writes:

"At our own stations we are very particular to have our gasoline water white. In past years when we have had complaints I always made it a practice personally to inspect when possible the globes of the stations where the complaints originated and in 99 percent of the cases found that the gasoline was water white but the globes needed cleaning."

Some of the letters offer opinions on the successful solution of the visible pump problem. The vice-president of a very large middle west refining and marketing company offers this discussion.

"For some years it was practically impossible to sell a dealer any other kind of pump except a visible until the last year or so when meter pumps came into vogue.

"If meter pumps had come into use sooner I do not believe that any of us would have had to worry about the color of gasoline as the customer would seldom, if ever, notice the color of it."

The use of meter pumps, both for quicker service and to remove the matter of color from before the customer's eyes, is suggested in letters from various sections of the country.

From the far West comes the statement of a refiner who says:

"We do find, however, that there are more meter pumps being installed and we are of the opinion that the jobbers themselves are satisfied that a gasoline of less than 25 color can be marketed satisfactorily."

An Oklahoma refiner finds the problem not very pressing.

"No doubt with the passing of the visible pump and the installation of the more modern meter types this color problem will solve itself," he writes.

In Kansas, one refiner reports:

"Several jobbers have recently advised that they are going to discontinue using visible pumps and install blind electric pumps which will dispense gasoline much faster.

"If the jobbing trade can be made to see the advantage of using the blind pump, we believe this would solve the color problem."

And a refiner in Pennsylvania writes:

"In a large number of pumps used now the public does not know whether the gasoline is white or not. They never see it."

The refiners are not all agreed as to the value or unnecessary expense of

treating cracked gasoline to water whiteness. Some of the letters reflect that the companies are decidedly not in favor of lowering color specifications. One south-central refiner writes:

"As I see it, we have nothing to gain in lowering color specifications as long as the gum content in cracked gasoline is high enough to cause motor trouble. Our trade demands better than water white gasoline. We sell no gasoline below 28 color and have had no trouble with cars going off color in transit.

"In September (1930), our acid consumed per barrel of pressure distillate was less than two-and-one-half pounds, which costs one-and-eight-tenths cents per pound, or about one-tenth of a cent per gallon."

This from a California refiner and marketer.

"This company would not be in favor of lessening the importance now placed on water white gasoline. We have built up our business on the basis of a quality product and although it is obvious that color may be no criterion of the quality of the gasoline, it is also true that much inferior gasoline has been put on the market and is still on the market and the public associates yellow color with a badly refined product.

"We feel that in letting down the color standard we would simply be making the way easier for many irresponsible companies selling off-grade products."

Several answers to the questionnaire view the matter of treating for color as insignificant in comparison with other qualities in the product. An official of a medium sized California refinery gives another view of anti-knock value. His experience is:

"In our operations and our own method of treating, we have proven it possible to secure a 30 plus color and sacrifice none of the anti-knock value."

An Oklahoma refiner says it would cost his company about $1,500 a month for chemicals to treat his cracked gasoline to water whiteness. He says:

"The principal trouble we encounter in the sale of cracked gasoline is due to the fact that our competitors, especially the larger ones, manage to make their cracked gasoline crystal white."

Besides the expense of unnecessary treating, a Mid-Continent refiner thinks that some valuable components may be lost.

"There is no doubt that treating expenses and losses occasioned in our efforts to produce a water white gasoline would represent a substantial sum of money, and I am sure that in addition we are losing very valuable components by the heavy treatment which is necessary to produce a water white color."

Another Mid-Continent refiner suggests:

"We are not selling through our stations anything except water white gasoline and Ethyl. To sell anything other than a water white or Ethyl gasoline, unless it is dyed, would require education of the public."

The relative ease or difficulty of educating the public to the idea, however, is not agreed upon. An executive of a large distributing, refining, and marketing company thinks:

"There are so many colored gasolines, most of them of a premium grade, that I would think there would be no difficulty in reducing the color requirements."

On the other hand, some refiners are less optimistic. A letter from a Mid-Continent refiner says:

"We think that there are many difficulties to overcome before it is possible to get away from water white gasoline."

And the vice-president of a very large middle west company writes:

"It is our opinion that the battle to convince the dealer and ultimately the public that yellow gasoline is better than white, is going to be a very long one. Finally the idea will probably go over."

Several refiners offer suggestions toward furthering the ease of the education process. A Pacific coast official thinks that the motorist could be made to appreciate the benefits of accepting yellow gasoline if the product "were marketed to the consumer at a distinct advantage to him in price."

Another suggestion, from a middle west refiner, is that as long as the gasoline is kept transparent and not cloudy the public probably will accept it without complaint at the low color.

Of course, no argument in favor of abolishing the color specification should be taken as an excuse for poor refining.

It is understood that all gasoline should be properly refined to meet the requirements expected of it by present-day automobile engines.

Another pertinent letter, received since the publication of the first two of this series of articles, appeared in the October issue of WORLD PETROLEUM bearing out several of the points made in the articles. An unexpected aspect of the letter consisted of its presenting the same problem of public demand for water whiteness occuring in the Near East. The writer was entirely correct in saying that the industry alone is to blame for public demand for water whiteness in spite of the fact that this factor alone does not affect the quality of the product.

There is no doubt that the average customer if asked point blank whether he would prefer a water white or a yellowish gasoline would choose the former. There are very few gasolines, however, that would justify the customer in saying, "It looks dirty." Gasoline may have a yellowish or brownish tinge, but it is usually clear and free from anything that looks like dirt. The commentator states that it is hard to combat, at this late day, the preference of the customer for water white color as compared with cracked gasoline in its natural state. This is the very point made in the articles.

But the proposition is set forth in the articles that it is well worth the time and effort of the oil industry to wipe this prejudice out of the customer's mind because of the great expense that could be saved if the chemical treatment of gasoline purely for the sake of water whiteness could be done away with.

Another suggestion contained in the articles might be of value in the Near East, as it has proved to be in this country, namely, the use of dye either to neutralize the natural tint of cracked gasoline or to give the motor fuel a definite color of its own, making it easily identifiable by the customer. How quickly American refiners recognized the possibility of saving money in treating by the use of dye is shown by the fact that since this series of articles was started the percentage of dyed gasoline sold in the United States is estimated to have increased from 25 to over 40 percent.

The majority of opinions, then, on the subject of color of gasolines may be summarized as follows:

1. Color, in itself, has nothing to do with the quality of gasoline.
2. Demand favors water white gasoline or else a dyed product.
3. The general standard for gasoline color has been reduced to a large extent, from 25-30 color to 21 color.
4. "Visible bowls" on gasoline pumps are a hindrance to educating the public away from water white fuel.
5. A large amount of treatment of gasoline is both expensive and unnecessary.
6. Refiners in general would be benefited by the education of the dealer and consumer to accept darker color gasoline.

Most of the refiners of the country reflect, directly or indirectly, the simple statement of one Oklahoma refiner:

"It would be of benefit to all refiners if the question of color could be done away with."

Foreign Oil Legion

J. A. HOLMES, assistant chief engineer, Lago Petroleum Corporation, recently returned to Venezuela and is located at the company's Bella Vista terminal in Maracaibo.

▼

M. A. al RHYS PRYCE, formerly chief production engineer for the Royal Dutch-Shell's Venezuelan organization, is now in London where he will be engaged in petroleum research work.

▼

H. A. W. MYRIN, director of the Rio Atuel Ltd., Buenos Aires, has been visiting the United States.

▼

D. J. SMITH who has been located at Aruba supervising the construction of the Pan-American Petroleum and Transport Company's refinery recently returned to the United States.

▼

WILLIAM GREEN, vice-president in charge of production, J. R. Carroll, treasurer, E. E. Estabrook, chief petroleum engineer and W. R. Finney, gas and electric engineer, all of the Lago Petroleum Corporation, have been making an inspection trip of the company's oil properties in Mexico.

▼

R. G. STEWART, president, Pan-American Petroleum and Transport Company, sailed from New York for Europe on October 30.

▼

E. N. HALFEN, who for the past seventeen years has been engaged in drilling and production activities overseas, including being in charge of all Venezuelan drilling operations of the Martin Engineering Company for the last four years, is now in the United States on a vacation.

▼

H. L. ALLAN, refinery manager at Rangoon of the Burmah Oil Company, has returned to the plant following a trip to England.

SIR HENRI W. A. DETERDING, director general, Royal Dutch-Shell group has been visiting Germany.

▼

C. S. RIABOVOL, chairman of Soyuzneft, the Soviet export organization, is on a protracted tour of Western Europe.

▼

H. S. BELL, well-known petroleum engineer of New York, is now in Europe.

▼

T. S. MASTERSON, general manager of the Roumanian operations of the Phoenix Oil and Transport Company, Ltd., recently returned to Bucarest following a business trip to England.

▼

COLONEL H. C. B. HICKLING of the Apex (Trinidad) Oil Fields, Ltd., has returned to Trinidad following his recent visit to London.

▼

J. W. VAN ECK, president, Shell Union Oil Corporation, is in London on the business of this company. He sailed from the United States on November 14.

▼

P. HENRY, chief geologist, Richmond Petroleum Company, returned to Maracaibo, Venezuela, at the end of October from Eastern Venezuela where he has been engaged in geological work in the Quiriquire district for two months.

▼

J. ELMER THOMAS has returned to the United States following a trip to Germany where he has been studying oil properties.

W. F. PRENDERGAST, advertising manager, Imperial Oil Ltd., Toronto, has been elected president of the Association of Canadian Advertisers, Toronto, Ont.

▼

H. R. HECK, production engineer, Venezuela Gulf Oil Company's Lagunillas field, is in the United States.

▼

H. L. CHITTENDEN, a director of the "Apex" S. A. of Roumania, has returned to London from a visit to Roumania and Germany.

▼

DR. MURRAY STUART, a well-known oil geologist, has returned to London after spending several weeks in the North German oil areas.

▼

EUGENE BUNESEN, petroleum superintendent of Concordia S. A. (Roumania), has returned to Roumania after a six months' tour in the United States.

▼

E. F. DAVIS, a vice-president of the Shell Oil Company of California, and chief geologist in California, is in Europe on a visit.

▼

THOMAS BARKER, representative of Russian Oil Products in Australia and New Zealand, has returned from his visit to the Russian oil fields.

▼

ENRIQUE P. CANEPA, director Destileria Fiscal de La Plata, and Juan N. Catinari, chief, Departmento Tecnico de los Yacimientos Petroliferos Fiscales, of the Argentine Government oil fields, are at present in New York.

▼

W. H. HOWARD, geologist, formerly with Gulf interests in Java, is now at Dixon, Calif.

(Continued on page 693)

John D. Rockefeller, Sr., leaves New York for Florida. With him is John D. Rockefeller, Jr.

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UNITED STATES

	Daily Production bbl	Daily Runs to Stills bbl.	Gasoline Stocks bbl.	IMPORTS FOR WEEK Total bbl.	IMPORTS FOR WEEK Gasoline bbl.
Week Ending Oct. 24	2,381,250 400,300*	2,399,400	31,218,000	1,204,000	211,000
Week Ending Oct. 31	2,431,250 417,700*	2,335,400	31,445,000	2,086,000	271,000
Week Ending Nov. 7	2,456,800 419,450*	2,294,000	32,071,000	1,602,000	91,000
Week Ending Nov. 14	2,464,050 411,250	2,343,000	31,891,000	930,000	39,000
Week Ending Nov. 21	2,453,400 371,250	2,261,600	32,511,000	1,652,000	302,000

Underlined figures indicate improvement in statistical position—decrease in production, runs to stills, gasoline stocks or imports.
*Production of the Rusk-Gregg field, East Texas.

▼

Prices—Mid-November

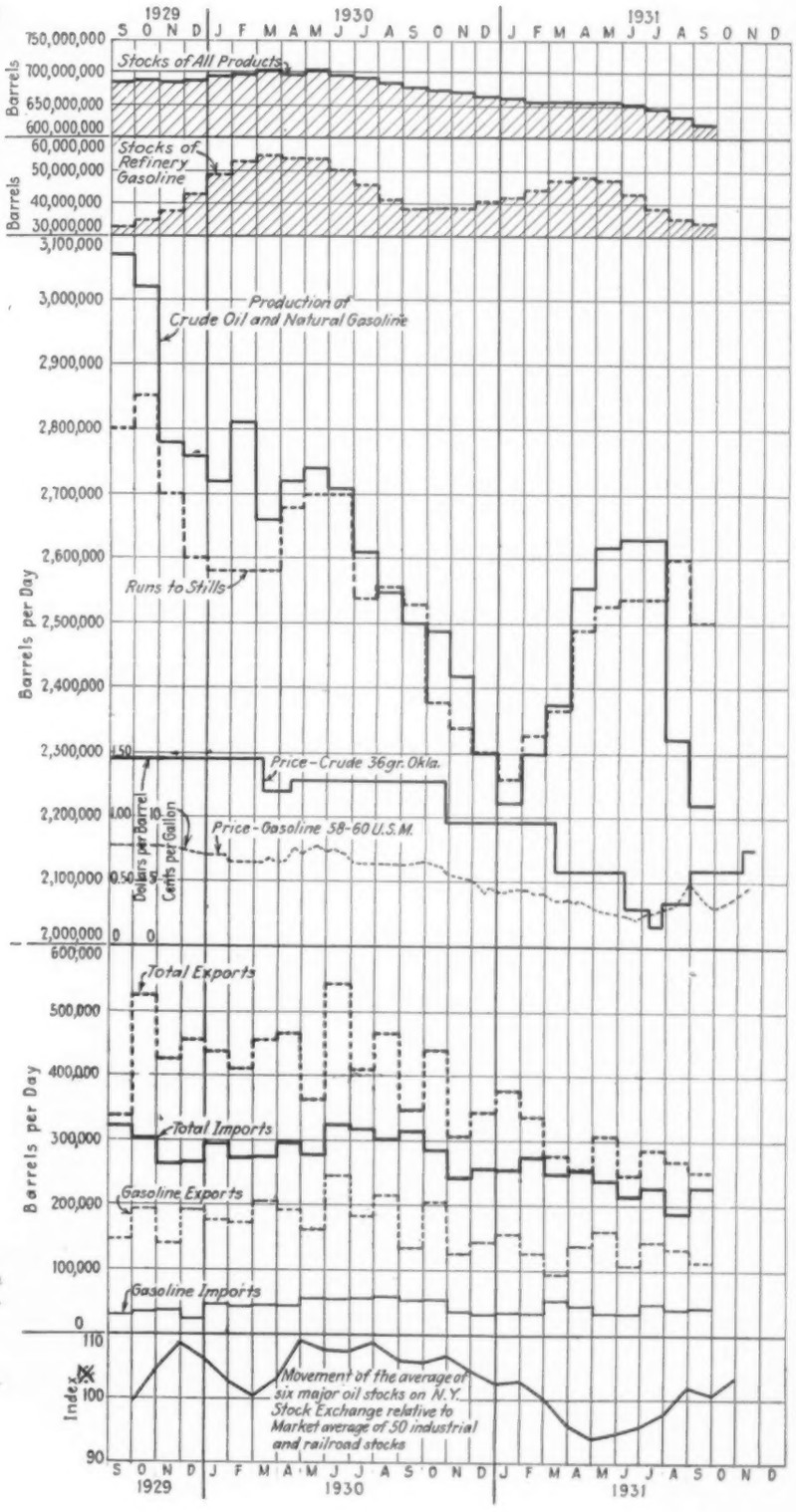
CRUDE oil prices have been generally revised upwards, increases beginning on October 31, when the Continental Oil Company posted a 15 cent advance for Oklahoma crudes. On November 9 the Magnolia Petroleum Company (S. O. of N. Y.) and the Humble Oil and Refining Company (S. O. of N. J.) met the new schedule and extended the increase throughout the Mid Continent and Gulf districts. On November 3 the Ohio Oil Company made corresponding increases in Central States and in the Rocky Mountains. Crude prices in California alone remain unchanged, but even there slight premiums are being paid in the Los Angeles Basin fields, probably presaging an official increase in price.

Comparative Price Schedules
(Cents per Barrel)

	Prior to Oct. 31	Since Nov. 3
Okla.-Kansas-North Texas	62	77
Rusk-Gregg, East Texas	68	83
West Texas and New Mexico	35	50
Gulf Coast—30 Gr.	61	76
Louisiana—36 Gr.	62	77
Salt Creek, Wyoming	62	77
Central States—Illinois	80	95
Kentucky	75	90
Los Angeles Basin—26 Gr.	73	73

In Texas, Oklahoma and Kansas the indicated advance in price added about $250,000 per day to the income of oil companies, royalty-owners and farmers. Provided proration continues effective throughout the flush fields of the United States another increase in crude oil prices, from 10 to 15 cents per barrel, may be expected before the first of the year, thus again improving the inventory accounts of all major oil companies.

Gasoline markets immediately reflected increased crude prices, as well as advanced retail prices, gasoline being quoted from ¼ to ½ cent higher in Group 3 and in Chicago markets, the price ranging from 4¾ to 5¼ cents per gallon. Gulf quotations were similarly advanced — domestic shipments



Statistical position of U. S. oil industry.

ranging from 4¼ to 4¾ cents per gallon, export prices from 4 to 4½ cents per gallon.

Rusk-Gregg—East Texas

THE proration method based on "per well per day" allowance continued to be reflected in a very large number of new locations and completions throughout October and November, thus forcing the State Railroad Commission to reduce the allowable from 165 bbl. per well per day, first to 150 bbl. and again to 125 bbl. in order to keep production of the field within the 400,000 bbl. limit. New locations reached a high of 195 for the week ending October 23, gradually declining to 84 for the week ending November 11. Producing wells in the East Texas field reached a total of 2,916 on November 11, while active operations on that date numbered around 800, indicating that as of December 1 the per well allowance will have to be further reduced to around 110 bbl. per day.

Several new curtailment plans have been proposed which would eliminate the excessive drilling of new wells, the most favored allowing 4 bbl. per acre per day graduation or a total field production of 373,000 bbl. from 93,000 proven acres. This plan is encountering bitter opposition from owners of small tracts under 10 acres, and at present an attempt is being made to effect a compromise, allowing small tracts a certain minimum production. Up to November 14 the East Texas field had produced around 90,000,000 bbl. of crude oil, or approximately 1,000 bbl. per acre of its proven area.

Van Pool—Texas

AN interesting innovation has been introduced into the proration method of the Van pool, where allowables have been determined on the basis of sand thickness underlying individual leases. With a total proven area of 4,158 acres, and a saturated sand thickness reaching a maximum of 600 ft., the total number of acre-feet units was determined at 1,171,410, and wells were prorated according to the number of acre-feet assigned to each well. This method appears to be equitable to all owners, and in all probability will be sanctioned officially by various State legislatures.

Total recovery from the Van pool has reached 19,000,000 bbl., or about 4,500 bbl. per acre. There are 261 producing wells in the field. Open flow potential is estimated at 2,500,000 bbl. per day, while the allowable is 50,000 bbl. The potential as measured through 11/16-inch chokes on 2½-inch tubing is 499,792 bbl.

Elwood—California

BARNSDALL Oil Company and Rio Grande Oil Company deepened their Lutton-Bell No. 14 from the shallow Vaqueros sand to the Sespe formation and at 4,392 ft. encountered a flow of 2,800 bbl. of 42.3 Gr. crude oil accompanied by 2,000,000 cu. ft. of gas. The shallow Vaqueros sand is encountered in the Elwood field at from 3,100 to 3,400 ft. The Sespe discovery materially increases proven reserves of the Elwood field, as well as those of California, improving the position of the Barnsdall and Rio Grande Oil Companies, the two major owners in this field.

The deep discovery well was shut-in after an agreement had been reached between all operators to delay development of the new sand until conditions warrant.

Kettleman Hills—California

PETROLEUM Securities Company's No. 1 Burbank on the Middle Dome of Kettleman Hills is drilling at 9,000 ft. without having encountered satsfactory oil showings in the Temblor zone. Sand conditions so far appear eminently unsatsfactory, though no salt water has been reached yet. Possible definite elimination of the Middle Dome from the potential reserves of California is a severe blow to that State, because it was generally anticipated that the Middle Dome would match in per acre reserves those of the North Dome although considerably smaller in area.

BASIL B. ZAVOICO.

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World Oil Production Figures--Official

All figures furnished direct to World Petroleum by Governments, except where otherwise specified

Figures in U. S. Barrels

(Conversion ratio 7 bbl. = 1 ton)

	Total 1930 (revised)	1st 6 mos. 1931	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT.	OCT.	Daily aver. Jan.-Oct.
United States	898,011,000	421,392,000	65,991,000	60,645,000	69,375,000	73,101,000	77,164,000	75,116,000	77,961,000	74,831,000	63,636,000	72,328,000[1]	2,336,013
Venezuela	141,652,832	60,025,709	10,579,707	9,806,034	10,705,814	9,579,784	9,834,545	9,519,825	10,339,028	10,133,319	9,703,736	9,751,455	328,793
Russia & Sakhalin	129,955,417	73,973,900	12,072,900	11,141,900	12,654,600	12,318,600	12,796,000	12,989,900	13,941,400	14,066,500	13,573,490	13,918,800	425,901
Persia[2]	43,549,323	21,659,481	3,201,156	3,079,132	3,081,260	3,442,341	4,296,642	4,558,950	4,404,106	4,434,507	4,627,525	3,154,942	125,922
Roumania	39,876,589	23,694,930	4,233,810	3,570,000	3,856,020	3,850,000	4,195,100	3,990,000	4,046,000	3,886,680	3,796,954[5]	3,710,000	128,732
Mexico	39,529,914	17,076,457	2,890,903	2,563,986	2,819,430	2,761,039	3,080,603	2,960,496	3,129,042	2,841,438	2,620,863[5]	2,357,945	92,190
Dutch East Indies	38,722,250	16,952,992	3,226,854	3,225,000	2,625,285	2,625,285	2,625,284	2,625,284	2,841,519	2,765,773	2,601,482	2,579,256	91,253
Colombia	20,343,176	9,380,050	1,657,694	1,565,425	1,774,865	1,467,429	1,479,452	1,435,185	1,490,524	1,512,528	1,414,958	1,500,000[1]	50,322
Peru	12,455,888	4,969,945	986,902	662,022	1,131,155	914,342	762,624	512,900	1,005,712	793,677	784,365[5]	775,000[1]	27,397
Trinidad	9,418,907	4,824,997	831,552	744,518	844,534	798,134	788,528	817,761	842,884	891,908	832,483	844,587	27,095
Argentina	9,001,671	5,505,965	898,007	796,578	875,400	833,700	1,038,780	1,063,500	1,022,900	1,031,100	988,100	1,081,300	31,675
India (British)	6,936,315	3,689,933	662,604	635,743	705,568	553,912	563,126	568,980	685,931	693,330	673,125	570,000	20,764
Sarawak	5,251,541	1,778,295	369,852	231,090	355,453	309,876	302,295	293,151	288,806	283,563	239,302	225,169	9,534
Poland	4,645,550	2,209,455	390,600	350,700	381,500	357,000	372,155	357,500	377,300	374,997	360,500	365,400	12,130
Japan & Taiwan[1]	2,250,000	1,172,500	197,500	195,000	195,000	195,000	195,000	195,000	195,000	195,000	195,000	195,000	6,422
Egypt	1,977,660	979,093	196,021	158,210	162,225	160,573	152,418	149,646	143,311	146,468	144,431	143,661	5,121
Ecuador	1,596,238	835,561	137,531	120,145	126,544	117,763	169,111	164,467	177,085	168,228	162,488	136,647	4,868
Canada	1,535,827	954,101	179,711	155,651	160,358	153,705	156,392	148,284	119,327	103,314	101,435	99,924	4,533
Germany	1,209,185	596,194	127,894	98,000	100,030	77,833	95,438	96,999	97,390	107,616	99,484	108,234[3]	3,318
Iraq	980,000[4]	600,000[1]	100,000[1]	100,000[1]	100,000[1]	100,000[1]	100,000[1]	100,000[1]	100,000[1]	100,000[1]	100,000[1]	100,000[1]	3,289
France	516,642	240,225[1]	40,075[3]	40,075[3]	40,075[3]	40,000[1]	40,000[1]	40,000[1]	40,000[1]	40,000[1]	40,000[1]	40,000[1]	1,316
Others	220,000	164,700	25,900	25,900	25,900	29,000	29,000	29,000	29,000	29,000	29,000	29,000	923
Total	1,409,635,925	673,676,483	108,998,173	99,910,109	112,096,016	113,786,316	120,236,493	117,732,828	123,277,265	119,429,946	106,724,721	114,014,320	3,737,511

[1] Estimates. [2] Anglo-Persian Company's figures. [3] Official total, 1st quarter 120,225. [4] Actual production in Iraq probably higher than official total. [5] Revised. [6] Not inclucing Prussia.

RUSSIA

Official Figures for Operation

1931	Crude Production (bbl.)	Crude Daily Average (bbl.)	Run to Stills (bbl.)	Drilling (feet)
January	12,072,900	389,448	10,399,200	168,458
February	11,141,900	397,925	9,514,400	147,945
March	12,654,600	408,213	11,197,200	226,439
April	12,318,600	410,620	10,569,300	239,699
May	12,796,000	412,774	11,841,900	236,009
June	12,989,900	432,996	11,427,500	227,307
July	13,941,400	449,722	12,248,600	228,706
August	14,066,500	453,758	11,841,200	197,257
September	13,573,490	452,449	12,185,600	205,662
October	13,918,800	448,993	12,802,300	173,020
Total	129,474,090	425,901	114,027,200	2,050,472
Quota for 1931, Revised 5-Year Plan	192,500,000	527,400	173,250,000	3,000,000

Crude production figures converted from metric tons at seven barrels per ton.

Production

FROM the figures for the first 10 months of 1931 it is to be expected that while Soviet Russia's crude production for the entire year is almost certain to reach 152,500,000 bbl. it will not exceed 155,000,000 bbl. This will be about 40,000,000 bbl. below the quota of 192,500,000 bbl. set for 1931 by the revised Five Year Plan. Nevertheless, it easily will exceed last year's production of 129,955,417 bbl. Under the circumstances the increase in crude production during the critical year 1931 is a sign of good progress so far as the Soviet Plan is concerned. In view of the difficulties caused by the large turn-over of labor, lack of skilled operating forces, shortage of equipment and disorganization of transportation it is a remarkable achievement.

During the first nine months of 1931 a total of 3,250 wells were completed in Soviet fields and 24 cracking units and 28 pipe still installations were erected, part of which are already in operation. Twenty more cracking units and several refineries were scheduled for erection before the end of the year and 14 tankers with a total capacity of 100,000 tons d.w.c. were to be launched during the same period. Refining capacity of all plants in operation in Soviet Russia as of August 1, 1931, was reported to be 156,000,000 bbl. per annum compared with 110,950,000 bbl. capacity in 1929/30 and 85,850,000 bbl. in 1928/29.

During the first nine months of 1931 2,142,000 bbl. of cracked gasoline were produced in Soviet Russia against 195,000 bbl. produced during the corresponding period of last year. Cracking, although gaining importance month by month, is nevertheless still a minor factor in Soviet Russia.

Exports

TOTAL oil exports for the year are expected to reach 38,500,000 bbl. Increase over last year will thus amount to about 2,500,000 bbl. which in view of conditions prevailing on the European market—Russia's best customer— may be considered very satisfactory. The year 1931 so far has been a critical period for Soviet Russia's oil exports owing to unsettled prices and Roumanian competition. Great Britain's action in going off the gold standard and the general trend of business conditions throughout Europe will undoubtedly prove to be more favorable for Soviet Russia's export campaign in future. The year 1932 should see a definite expansion of Soviet Russia's oil exports.

In the accompanying table are given preliminary official figures subject to revision; converted from metric tons by WORLD PETROLEUM on the following basis. Gasoline and ligroin, 8.50 bbl.; kerosene, 7.75 bbl.; Diesel, gasoil and solar oil, 7.60 bbl.; fuel oil, lube oils and crude oil, 7 bbl. per ton.

Soviet Exports by Products

(Jan. to Aug. 1931)

Products	Barrels
Gasoline & ligroin	9,333,850
Kerosene	3,489,050
Diesel and gasoil	2,061,120
Fuel oil	8,446,900
Lube oils	938,000
Solar oils	213,500
Crude	1,158,500
Miscellaneous	76,300
Total	25,717,220
Tons	3,374,300

Preliminary official figures subject to revision converted from metric tons by WORLD PETROLEUM on the basis of 7.60 bbl. per ton are as follows:

Soviet Exports by Countries

(Jan. to Aug. 1931)

Country	Barrels
England	5,310,120
Italy	4,902,000
France	4,330,480
Germany	2,425,920
Belgium	872,480
Denmark	828,400
India	821,560
Turkey	775,960
Egypt	731,880
Czecho Slovakia	536,560
South Africa	583,680
Sweden	436,240
Bunkers to ships	1,064,000
All others	2,025,400
Total	25,644,680
Tons	3,374,300

Marketing

P. BOGDANOV, Chairman of the Board of Directors of Amtorg recently denied that shipments of oil products to the United States from Russia are contemplated.

According to reports from Shanghai, the Soviet Oil Trust has concluded a contract with the Kwang Hua Petroleum Company, for the importation of approximately 214,285 bbl. per month of Russian refined oil into Shanghai. Information from authentic sources indicates that no definite contracts have been signed by the Russians so far. Recent imports of Russian oil into China have been limited to one cargo, and it is doubful whether the Oil Trust will force the issue of oil exports to China at present.

Consumption

A VERY considerable increase in domestic consumption is anticipated for 1933. Hitherto, this angle of demand for Soviet oil has been subordinated to export demand which was expected to supply the necessary credit and equipment for the complete nationalization of the industry under the new regime.

Estimated Russian Petroleum Consumption

(In barrels of 42 U. S. gallons)

Product	1931	1933
Gasoline	4,000,000	26,800,000
Ligroin	2,225,000	14,280,000
Kerosene	28,905,000	64,710,000
Lubeoils	2,275,000	7,125,000

J. WEGRIN.

ROUMANIA

Kessler Plan

SANCTION for Roumania's adherence in principle to the Kessler plan for a world petroleum conference and production restriction has been given by Vasilescu Carpen, Minister of Industry and Commerce, and he will appoint a representative to serve on the Roumanian committee.

Although the Association of Oil Producers of Roumania at its general meeting adopted a resolution accepting in principle the Kessler plan, the attitude of the independent operators showed a distinct lack of enthusiasm. In fact, there was a general feeling of suspicion due to the utter failure of the 1930 domestic restriction agreement, which has caused so much dissatisfaction in the Roumanian oil industry. Constantin Osiceanu, president of the Association, opened the discussion, but nobody appeared willing to discuss the plan. Mr. Osiceanu then read the acceptance resolution. No objection was raised and it was unanimously adopted, as follows:

"The Roumanian petroleum industry has taken note with special interest of the proposal to overcome the difficulties in the world oil industry by J. B. Aug. Kessler.

"The Roumanian petroleum industry, being conscious that only international agreement can remedy the present situation of that industry, desires to cooperate seriously to this end by endeavoring to bring production to a level somewhat below world consumption in such a manner as to exhaust surplus stocks within a reasonable period.

"The Roumanian petroleum industry is ready to send qualified representatives to partake on its behalf in discussions at an international conference in order to establish, on the general principles set forth by Mr. Kessler, the most suitable regulations for the conclusion of a world agreement which will be equitable for each participating country."

Details of the plan will be studied by a committee consisting of one representative of each of the nine leading companies and two delegates representing all the small producers. Following thorough examination of the plan, a delegation will be selected to attend the international conference if it is held.

Oil Subsidies

THE various small Roumanian oil companies have raised strong protests against the attitude of the Ministry of Finance on the matter of subsidies granted by law. Regardless of representation made by Minister of Industry and Commerce Carpen, and notwithstanding the large sum of money already collected, the Minister of Finance refuses to pay the subsidies, so up to now the law has proved to be a burden instead of a benefit. During August and September the fund receipts were $250,000 and $327,000, respectively.

Small producers are badly in need of the bonus to which they are entitled. At present prices of crude and petroleum products, small companies are finding it impossible to obtain money for drilling, and they seem doomed to disappear from the industry.

Mergers

FIVE of the leading Roumanian petroleum companies are arranging a merger, namely, the Credit Minier, the I.R.D.P., the Petrol Romanesc, the Petrol Govora and the Sondajul. The total capital will be over Lei 1,000,000,000 or about $10,000,000. The aggregate daily output is approximately 14,000 bbl. It is expected that a new refinery will be built or purchased.

Petroleum Exports

IT was stated in the October issue of WORLD PETROLEUM that a new law was to be passed in Roumania permitting exports of crude oil, which were virtually prohibited in 1929, only 131,719 bbl. being exported in January-June, 1930, and 282,688 bbl. in January-June, 1931. A license has already been granted to the Association of Petroleum Producers Without Refineries to export 1,540,000 bbl. of crude annually for three years, and other licenses may soon follow.

To facilitate the export of crude, the State Railroads have reduced the transport charges from 32 cents to 17 cents, per barrel inclusive of tank car rent. Nevertheless, independent producers may have difficulty in financing exports.

In the first half of this year Roumania increased her exports of refined products by about 3,500,000 bbl. over the same period of last year, and disturbed the European price structure by cutting prices. This accounted for part of the drop in exports from the United States.

Taxes

VALUE of Roumanian petroleum products in 1930 amounted to $49,800,000, of which sum the State took $38,250,000 in taxes, or 76 percent, and this partly accounts for the condition of the industry. Petroleum taxes represent over 20 percent of the State revenue.

Production

UNTIL recently production has averaged about 128,800 bbl. per day, of which Astra-Romana produced 24,780 bbl. and Steaua-Romana 19,950 bbl. Reduced drilling activity has lately decreased production, and the average for October was about 119,670 bbl. per day, Astra-Romana, Steaua-Romana and Concordia running at about 17,000 bbl. daily. Official figures for October show a production of approximately 3,710,000 bbl.

Fuel Oil

DISPOSAL of fuel oil is giving the industry considerable trouble. Nearly 5,000,000 bbl. are stored at refineries, threatening to cause a cessation of operations. The State Railroads consequently have reduced transport charges to Constanza from 23 cents to 22 cents per barrel and export tax of 73 cents has been cancelled. This represents a total reduction of 4 cents per barrel, which the oil companies consider inadequate, demanding instead a reduction of 13 cents. At the present time refiners have to pay 10 cents per barrel out of their own pockets every time a cargo is shipped to Constanza, due to the very low prices f.o.b. Constanza.

A moratorium has already been declared by the Roumania-Petrolifera, which is unable to meet its obligations. This concern controls the Fratia refinery at Ploesti.

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OUR cover picture this month shows part of the Lago Petroleum Corporation's production operations on Lake Maracaibo in Venezuela. The frontispiece on page 658 illustrates a night view of a 15,000 bbl. Foster-Wheeler atmospheric topping unit at Grozni, Russia.

MEXICO

Production

THAT Mexico's 1931 petroleum production will be the lowest in the Republic's history, is indicated by official figures of the petroleum department of the Ministry of Industry, Commerce and Labor showing that during the first nine months of this year the output of crude was only 25,675,579 bbl. worth commercially 63,424,967 pesos (some $25,500,000, U. S.). October's crude oil production adds 2,357,945 bbl. to this amount.

Considering that the average monthly output during the nine months' period was 2,852,842 bbl., it appears certain that, unless there is an exceptional production during the remainder of the year, a circumstance that is deemed impossible, the Republic's 1931 oil output will be only 34,233,105 bbl., some 5,000,000 bbl. under last year.

Revenues

A NEW low record for the Federal Government's revenues from petroleum production and exportation taxes was established in September, according to the special taxations department of the Ministry of Finance. Income from these sources for that month is given as 287,581.78 pesos (about $126,000, U. S.). Of this amount, 129,790.92 pesos were derived from production levies and 157,790.86 pesos from exportation imposts.

Exports

SEPTEMBER witnessed an increase of Mexico's petroleum exports to the United States. According to the Ministry of Industry, Commerce and Labor, during September 237,090 bbl. of Mexican petroleum, worth $250,000, U. S., were unloaded in New York; shipments considerably exceeding those of other months of this year.

Contending that petroleum exports have been rendered impossible for the present because of the condition of the Coatzacoalces River which prevents the movement of oil carrying craft, the Mexican Eagle Oil Company, of the Royal Dutch-Shell group, has petitioned the Federal Board of Arbitration and Concilliation for sanction to temporarily suspend all its activities in the Isthmus of Tehuantepec region, and especially at its refinery at Minatitlan, Vera Cruz State. The Board has sent a representative to the zone to investigate and report upon the company's petition.

Exploration

DISCOVERY of petroleum indications near the town of San Pedro de las Colonias, Coahuila State, has been reported to the petroleum department of the Ministry of Industry, Commerce and Labor, which has also received applications for exploitation concessions to lands in the region. The discovery is said to have been made by William Hesselin, German geologist, who found traces of petroleum in a water well he drilled to a depth of 396 ft. A geologist commissioned by a group of business men, explored another region of Coahuila State, and reported finding traces of petroleum, but commented that oil was in but scant quantities.

New Official

JOSE S. NORIEGA, Mexican engineer, has been appointed chief of the petroleum department of the Ministry of Industry, Commerce and Labor, Mexico City, by President Pascual Ortiz Rubio, replacing Santiago Gonzales Coredro, resigned. DOUGLAS GRAHAME.

CANADA

Prices

PRICE of mid-continent crude still continues to advance. Delivery prices at Sarnia during September being $2.325 per barrel, compared with $2.078 in August. These increases continue to be absorbed by domestic oil companies as there have been no general advances in gasoline prices. Domestic refiners, and their associated distributing companies are presenting a united front in maintaining prices against distributors of imported gasoline. Competition of this nature is being met by domestic companies placing on the market high grades of anti-knock spirit at prices in line with low grades of gasoline. A recent case in point is the Three Star gasoline of Imperial Oil, Ltd., which is anti-knock, and high grade at low prices.

Price Investigation

INDICATIONS are that political pressure will be brought to bear on retail prices of gasoline to bring them as low as possible, on the grounds that too high a price will tend to defeat the purpose of the tax, namely raising additional provincial revenue. It is possible that demands will be made for an investigation of the price of Canadian-made gasoline or imports free of duty by the Liberal party organization on the assumption that Canadian consumers are paying an unnecessary tribute of $20,000,000 mostly for the benefit of foreign capitalists.

The STANDARD, a Montreal newspaper, in its propaganda for lower gasoline prices equivocally points out that the average for eight Canadian cities (tax omitted) was 25.5 cents per gallon in September, 1930, declining to 23.3 cents in September, 1931. For eight American cities it quotes the average price of gasoline (tax omitted) at 21 cents declining to 15.5 cents for the same period. The STANDARD, however, which appears to be more interested in forcing prices lower, than in presenting an accurate comparison, does not take into consideration the depreciation of from 12 to 20 percent in the value of the Canadian dollar in comparison with the American dollar, and to the fact that gasoline is being marketed in the United States at prices that are resulting in heavy losses to oil companies.

Imports Decline

IMPORTS of gasoline continue to show heavy decreases; September figures showing a total of 265,380 bbl., as compared with 317,390 bbl in August, and 606,314 bbl. in September, 1930. It will be noted that imports of gasoline show a decrease of well over 50 percent compared with a year ago. This indicates that the continued decline of gasoline imports is not due to seasonal fluctuations; but has its roots in more far reaching causes such as the increased tariff, and adverse exchange conditions.

Imports of crude for September are down almost 10,000,000 bbl., being 96,534,568 bbl. compared with 106,065,392 bbl. in August. Value, however, is only down $63,811.

Production

DOMESTIC production of crude for the month of October amounted to 99,924 bbl. Pooling arrangements covering the production of natural gas in the province of Alberta, proposed by Premier Brownlee of that province, have not been completed. It is stated that Canadian Industries, Ltd., are investigating the possibility of using a certain amount of the waste gas of the Turner Valley field in the production of certain of their products. This investigation is being undertaken in conjunction with Imperial Oil, Ltd.

The fact that the Province of Quebec has adopted a series of regulations covering oil and gas wells may perhaps be construed as an indication that the officials of that province are at least prepared to admit the possibility of oil and natural gas occuring within their boundaries. Regulations, which have been passed by Order In Council, cover the actual process of drilling and provide for very complete supervision of operations on the part of officials of the Bureau of Mines. They also provide for conservation of potential fields.

R. C. ROWE.

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Late Roumanian Notes

THE committee formed by the Roumanian oil industry to study the Kessler plan met on December 10, and following a discussion a sub-committee was appointed to study details of the plan and its application. The following oil men form the sub-committee: Th. Ficsinescu (Colombia); C. Matasaru (Steaua-Romana); Fr. Gartner (Astra-Romana); and Mr. Dobrescu (Credit-Minier).

A bill has been drafted by the Ministry of Industry and Commerce of Roumania, which if passed, will enable all domestic oil companies to export up to 15 percent of their total production without special permit. It is the result of a study by a special commission on exports appointed by the Ministry with view to modifying the 1929 law. It is the intention of the Ministry to sell its royalties of crude oil for the next few years and an option appears to have been given a German group. A Franco-Swedish group also has made an offer.

On November 25 a commission formed by General Secretary Budeanu of the Ministry of Industry and Commerce left Bucarest for Paris to discuss an economic convention between France and Roumania with a French delegation. The conference will particularly discuss imports of Roumanian kerosene into France. Under the existing convention the French Government is enabled to import about 3,000,000 bbl. of untreated kerosene yearly and 3,000,000 bbl. of treated kerosene. The committee is formed of C. Osiceanu (Steaua-Romana); Th. Ficsinescu (Colombia); Mr. Constantinescu (Concordia).

A shipment of 56,000 bbl. of crude has been exported to Italy via Sulina for the first time. Prices f.o.b. Sulina are approximately seven cents per bbl.

E. I. MARGULIUS.

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Texas Politics

WHAT is regarded as Attorney-General James V. Allred's ill-timed bid for political advancement in Texas, in the shape of ouster suits filed against 15 oil companies and two petroleum trade associations seems to have aroused nothing but amusement in the industry and certainly not the enthusiasm among the Texas voters calculated to sweep Mr. Allred into the Governorship. Obviously timed to create a sensation when the eyes of the business world were directed toward the American Petroleum Institute's annual meeting in Chicago, the Attorney-General seeks not only to oust the companies named in the suit, but to collect a fine totaling over $17,000,000.

Resorting to political expedients in common use 25 years ago might have been more effective had this action not been taken at a time when the Texas Administration was attempting to enforce a price advance by every means in its power. If there is any "price-fixing" in Texas it is being carried on by the State militia under orders from the Governor, and its success has been too popular among the thousands of citizens in the State who depend directly or indirectly on the petroleum industry for a living, to make good material for the opposition of a politically ambitious Attorney-General.

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Sutro on Supreme Court Decision

REFERRING to the decision of the Supreme Court of the United States upholding the California conservation law, reported on another page of this issue, Oscar Sutro, vice-president and general counsel of the Standard Oil Company of California, in response to a request from WORLD PETROLEUM said:

"I consider the Supreme Court decision of very great importance in sustaining the constitutionality of statutes which authorize courts to restrain unreasonable production of oil or gas, confering jurisdiction on courts to make findings as to reasonableness, particularly with relation to correlative rights of owners in a field. The directors of the American Petroleum Institute recently endorsed the principle that each owner of the surface area overlying oil deposits is entitled only to his ratable share of recoverable oil in the common pool. This is an endorsement of the principle of correlative rights. The decision of the Supreme Court makes it clear that State statutes permitting the protection of such correlative rights are valid so far as the Federal constitution is concerned. The decision therefore clarifies the constitutional right of legislatures to legislate against waste and unreasonable production of oil or gas to the extent that these may infringe the correlative rights of owners in a pool, leaving the determination of what is reasonable to the courts. In this aspect the decision is of far reaching importance and of great potential value to conservation of our petroleum resources.

"The other question as to the right of the State to prohibit waste as a matter of public policy and because of the public interest in natural resources was left undecided until the issue should be presented in a case rendering its decision necessary."

FINANCE

New York—November

THE rise in security prices which began from the bear market lows of early October continued with renewed vigor during the first part of November, but met reactionary forces around the middle of the month which more than erased the gains recorded. The reversal of the downward trend of oil prices, which followed the military shutdowns in Texas and Oklahoma, however, has eased the financial strain in the oil industry, and the relief from further inventory losses has been already reflected in the third quarter reports now available.

STANDARD OIL COMPANY OF CALIFORNIA reported third quarter net of $6,297,819 after all charges, equal to 48 cents a share on 13,102,900 shares of no par capital stock. In the preceding quarter net was only $1,275,258 equal to 10 cents a share, while the third quarter of 1930 showed net of $10,717,039, or 83 cents a share on the slightly smaller number of shares then outstanding.

PHILLIPS PETROLEUM was able to report a profit of $263,900, or 6 cents a share, for the September quarter, a substantial improvement over the loss of $2,054,802 sustained in the second quarter, but substantially below the earnings of $3,026,369 in the third quarter of 1930.

NET loss of $2,681,620 after interest and all other charges reported by Shell Union Oil for the third quarter was a distinct improvement over the loss of $11,056,034 incurred in the second quarter although much less satisfactory than the profit of $1,107,659 earned in the third quarter of 1930. For the nine months ended September 30 the net loss totaled $23,641,126. As of September 30 cash and call loans amounted to $35,740,457 in comparison with $25,399,656 as of December 31, 1930.

SEABOARD OIL COMPANY, formerly Mexican Seaboard, turned a second quarter loss of $34,917 into a third quarter profit of $54,242, equal to 4 cents a share on 1,244,383 no par shares.

FOR the nine months ended September 30, Continental Oil showed net loss of $9,484,163, after interest and all other charges, compared with profit of $4,002,794 for the same period of 1930. Although the third quarter showed a loss of nearly $3,000,000 after all charges, it represented a considerable improvement over the second quarter. As of September 30 cash and certificates of deposit amounted to more than $11,000,000.

FOR the September quarter Tide Water Associated reported consolidated net profit of $1,253,175, equal after preferred dividend requirements to 2 cents a share on 5,740,153 no par common shares. In the second quarter a net loss of $885,889 was sustained, while in the third quarter of 1930 net was equal to 20 cents per share of common.

SOCONY-VACUUM CORPORATION declared a 25-cent dividend payable December 15, thus apparently placing the stock on a $1 annual basis. The initial distribution of this consolidation was 40 cents a share paid three months ago. Standard Oil of Indiana continued the $1 annual basis, and Standard Oil of New Jersey declared the usual quarterly 25-cent regular and 25-cent extra payments.

ON February 1, Standard Oil Company of New Jersey will retire $30,000,000 of its 5 percent twenty-year debenture bonds, which are part of $120,000,000 issue made on December 15, 1926. Walter C. Teagle, president, states that the $13,600,000 needed for the retirement is on hand in the form of cash. As the industry is now amply supplied with facilities to meet requirements there will be no need for large capital expenditures in the near future.

THE ROCKEFELLER FOUNDATION, which is a very large holder of Standard Oil stocks, reported total assets as of the close of 1930 of $214,993,367. Standard Oil of New Jersey stock continued to dominate its portfolio, totaling $37,508,208 by virtue of 1,077,005 shares carried at $34.83 a share. Holdings of Standard Oil of Indiana were also substantial, amounting to 691,140 shares carried at $28.90 a share.

C. C. BAILEY.

New York Stock Prices

1931 High	1931 Low	Current Div. $ per Annum	Stock (Par Value $)	Sales (Shares)	October 19 to November 21 First	High	Low	Last	Net Change[1]
23⅝	9½	1.00	Atlantic Refining (25)	74,700	12	13⅞	11⅝	11⅝	— ⅜
14⅛	4¾	....	Barnsdall 'A' (25)	109,500	5⅞	8⅛	5⅝	6⅝	+ ⅜
3⅛	¾	....	Colon Oil (No)	7,700	1	1⅛	¾	1	+ ⅛
12	5	....	Continental Oil (No)	145,700	6⅝	9⅛	6¼	7	+ ⅛
3⅞	1⅝	....	Creole Petroleum (No)	33,900	1⅝	2⅝	1⅝	2⅛	+ ⅛
75½	38	1.50	Gulf Oil Corp. (25)	34,800	44⅞	57¼	44	46	+ ⅛
72	47¾	2.00	Humble Oil & Ref. (25)	8,500	50¼	61⅞	49	52	+4⅛
18¼	7⅜	0.50	Imperial Oil, Ltd. (No)	34,600	9⅛	12	9⅛	10	+1
4⅝	1⅝	....	Indian Refining (10)	4,600	2¼	2⅝	2	2	— ⅛
15½	7⅜	1.00	International Petr. (No)	71,200	9¼	12¼	9¼	10⅝	+1⅛
19½	6½	....	Ohio Oil (No)	109,600	7¾	10½	7½	7⅞	— ⅛
36½	20	*0.80	Pan Amer. P. & T. 'B' (50)	1,100	22	24½	22	23	+1
16⅝	4¾	....	Phillips Petr. (No)	118,400	6	9	5⅝	7	+1
20¾	5½	....	Prairie Oil & Gas (25)	19,500	7½	10¼	6⅝	7½	+ ⅝
11⅞	5	....	Pure Oil (25)	44,900	5¾	7½	5½	5⅝	.....
6⅝	⅞	....	Richfield Oil (No)	7,000	1	1⅛	⅞	1	— ⅛
42⅝	13½	†2.27	Royal Dutch N. Y. (13⅔)	35,700	19¾	20⅝	16½	16⅝	—2⅝
20¾	5½	....	Seaboard Oil (No)	113,800	8	10⅜	7¼	8	.....
10¼	3¼	....	Shell Union (No)	79,700	4½	5⅝	4	4½	+ ⅛
15⅞	5½	....	Sinclair Consol. (No)	325,900	6⅞	9¼	6¼	6⅝	— ⅛
12⅞	3½	....	Skelly Oil (25)	13,700	4½	5⅞	3¾	4½	+ ⅜
21	12½	1.00	Socony-Vacuum (25)	199,800	13⅞	15⅝	12⅞	13	—1
51¾	28½	‡2.50	Standard Oil of Calif (No)	193,000	31½	36⅝	31⅛	31⅝	+ ⅛
38½	15⅞	1.00	Standard Oil, Ind. (25)	131,300	20	23⅞	19⅝	20	.....
23⅝	13¼	1.60	Standard Oil, Ky. (10)	22,000	15⅞	18	15¼	16⅛	+ ⅝
52½	28¼	§2.00	Standard Oil, N. J. (25)	374,600	32	37⅜	31⅛	32⅝	+ ⅝
45¼	26¾	#1.00	Sun Oil (No)	2,100	32½	34½	31½	31½	+ ⅝
36¼	15	2.00	Texas Corp. (25)	161,700	18⅝	21½	17⅞	18½	— ⅛
9	3½	....	Tide Water Assoc. (No)	52,600	3¾	5¼	3½	3¾	.....
26⅝	11¾	★2.00	Union Oil of Calif. (25)	46,900	15¾	18	14½	15½	— ¼
1⅞	⅝	....	Venezuelan Petr. (5)	114,100	⅝	⅝	⅝	⅝	+ ⅛

[1] Since close of last month's table. * Paid so far this year. † Paid for 1930—no regular rate. ‡ Also paid 2 percent in stock at close of 1930. § Including extras. # Also paid 9 percent in stock at close of 1930. ★ Also paid 4 percent in stock in 1930.

London Stock Exchange Prices

1931 High	1931 Low	Last Year's Div. % per A/cn.	Share	October 15 to November 15 First	High	Low	Last	Change
9/32	1/4	....	Anglo-Ecuadorian	5/16	11/32	9/32	11/32	+ 1/32
2 3/8	1 1/32	17½	Anglo-Egyptian 'B'	1 3/8	1 5/16	1 3/8	1 1/4	+ 3/8
2 13/32	1 3/8	15	Anglo-Persian	1 15/16	2 3/8	1 13/16	1 15/16	.....
5/8	9/32	25	Apex Trinidad (5s.)	7/16	3/8	13/32	15/32	+ 1/32
31/32	7/16	....	Attock	9/16	13/16	9/16	5/8	+ 1/16
5/16	3/8	5*	Brit. Borneo (6s.)	5/32	5/16	5/32	5/16	+ 1/32
7/32	5/32	6¾	Brit. Burmah (8s.)	5/32	5/32	5/32	5/32	.....
5/32	1/16	....	Brit. Controlled ($5)	1/16	3/32	1/16	1/16	.....
1/4	1/16	....	Brit. Controlled Pfd. ($5)	3/32	1/8	3/32	1/8	+ 1/32
3 3/8	1 11/16	22½	Burmah	2 1/32	2 1/8†	1 7/8†	2 1/16†	+ 1/32
13/32	7/32	12c.	Canadian Eagle (No par)	1/4	9/32	7/32	9/32	+ 1/32
11/16	3/8	....	Creole (No par)	7/16	21/32	7/16	19/32	+ 3/32
5/32	1/16	....	Kern River (10s.)	2/32	2/32	2/32	2/32	.....
1 1/8	11/16	10	Lobitos	27/32	1 1/32	27/32	1 1/16	+ 7/32
17/32	9/32	6	Mexican Eagle ($4 Mex.)	5/16	11/32	9/32	5/16	.....
36½	24¾	40c.	Pan American 'B' ($50)	26	31½	25½	30½	+ 4½
3/8	5/32	2½	Phoenix	7/32	1/4	3/16	7/32	.....
26 5/16	9¾	17	Royal Dutch (fl. 100)	15¼	16¼	13 3/8	14 7/8	— 3/8
3 27/32	1 15/32	17½*	Shell Transport	2 1/16	2¼	1¾	2 3/16	+ 1/32
9/32	5/32	4	Steaua Romana	7/32	1/4	3/16	1/4	+ 1/32
1 15/32	3/8	5	Trinidad Leasehold	15/16	1 3/32	29/32	1 1/32	+ 3/32
9/32	3/8	....	Untd. Brit. of Trinidad (6s.8d.)	3/8	3/16	3/8	5/32	+ 1/32
1 25/32	31/32	17½	Venezuelan Oil Concessions	1¾	1 3/16	15/16	1 3/32	— 1/32

Nominal value of shares £1 unless otherwise stated by bracketed figures.
* Denotes Tax-free dividend. † Denotes "Ex-dividend" price.
c. Denotes cent per share.

London—November

No definite tendency has developed in the oil share market this month, although most shares have risen on balance. Prices have fluctuated considerably from day to day under the varying influences of American news, changes in the value of Sterling, and dividend statements of leading companies. Indications of improving prospects of successful restriction in the United States, and rises in prices of crude and gasoline, have stimulated the market. The Continent has bought on any appreciable fall in the value of the pound, but has turned a seller as soon as higher Sterling values made realizations profitable.

Disappointment at the absence of a interim dividend on Shell Transport and Royal Dutch shares was more than offset by the interim statements issued by the directors. The market was impressed by the announcement that the liquid funds of the group total £20,000,000 Sterling and $50,000,000 U. S. currency, as well as by the reference to the economies effected by the companies and their subsidiaries. Encouragement was also derived from the directors' views regarding the economic advantages, such as the growing diversity of finished products, enjoyed by petroleum over most other primary commodities. Insofar as expenditure of the companies, Sterling funds has to be made in currencies now standing at a premium in London, the low value of Brtish currency will involve a considerable loss on exchange.

Dividend statements by important subsidiaries of the Royal Dutch-Shell group were definitely discouraging, Mexican Eagle, Canadian Eagle, and Venezuelan Oil Concessions all announcing their inabilty at the present time to declare any payment on their ordinary or preference shares. These announcements caused a shock to the market owing to the ample cover for preference dividends shown by the last accounts of the respective companies. In each case, however, last month's announcements indicated that failure to pay current dividends was due to uncertainty as to the course of business rather than to the definite knowledge that profits had not been earned.

Net profits of Trinidad Leaseholds, at £125,984 for the year to June 30, 1931, were approximately half those for 1929-30. The decline, however, is largely explained by the appropriation of £50,063 from income on account of the year's drilling costs in the Guayaguayare field, charged to capital account in previous years, and by an increase of over £35,000 in the allowance for depreciation. Goodwill of the company's British petrol distributing business acquired a year or so ago has been written off, and the unappropriated surplus, after provision for a 5 percent dividend, is £31,151, against £105,730 brought into the accounts. The accounts created a good impression, especially as the dividend of 5 percent, although comparing with 7½ percent in the previous year, was more than had been expected.

Kern River Oilfields of California has apparently reached the stage when the major task of the directors is to maintain the company as a going concern pending improvement in the petroleum industry. This was indicated at the recent meeting by William Ivey, the chairman, who stated that the majority of the company's wells in California had been shut down during the twelve months to May 31 last, while the refinery had been closed down on many occasions owing to excessive petrol stocks. The effects of overproduction had also reacted unfavorably on results in Mexico, Trinidad and Roumania, and in the latter field operations had been impeded by Government interference. The general policy of the board is to conserve resources. Earnings for the last financial year were not sufficient to cover actual depreciation. Gross profit, including that from subsidiaries, was £77,152, and the undivided surplus at the end of the previous year was £85,008. Practically the whole of the amount of £162,160 thus available was written off assets, but the report stated that further heavy depreciation remains to be provided in respect of certain properties.

In view of current business conditions, the Anglo-Persian Oil Company has decided not to declare an interim dividend on the ordinary shares which last year was five percent. Consideration of dividends will be deferred until accounts for 1930 are available.

ALEC. H. DAY

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Paris—November

The S. A. E. M. Pechelbronn will not publish its next balance sheet until the beginning of 1932; but judging by information which has come to hand, the results obtained by the company during the first 10 months of the year appear to be satisfactory. Production has been maintained at the usual average of about 518,000 bbl. per annum, and the quantities of crude runs to the refinery have not varied very much one way or another. The company's shares have fluctuated a good deal lately, partly influenced by the announcement of an increase in capital. The latter, however, will not take place for some time because all the necessary State authorisations have not yet been obtained.

No dividend is to be distributed by the Societe Algerienne des Petroles De Tliouanet this year. Company announces a net profit of Fr. 178,949

Paris Bourse Prices

1931 Div.	Par	Share	October 15 to November 15 First	High	Low	Last	Change	Position on Nov. 15 1930
30 Lei	500 Lei	Astra Romana	51	58	40	54	+3	105
....	500 Lei	Colombia	41	48	37	43	+2	81
30 Lei	500 Lei	Concordia	38	43	36	39	+1	71
....	500 Fr.	Cdré. Gén des Pétroles act	...	...	...	...	...	...
....	500 Fr.	Cdré. Gén des Pétroles part.	...	...	575	635	...	...
....	500 Fr.	Franco Pol Pétroles act.	39	54	35	50	+11	...
....	....	Franco Pol. des Pétroles part	...	...	...	...	...	...
1 $	10 $	Franco Wyoming	162	178	138	156	—6	355
20 Fr.	500 Fr.	S.G.des Huiles de Pétrole act	221	221	191	207	—14	486
....	....	" " part	...	...	...	...	...	182
....	500 Fr.	C. Française des Pétroles	...	...	...	...	...	...
40 Fr.	500 Fr.	C. Industrille des Pétroles	715	715	640	...	...	900
45 Fr.	500 Fr.	Lille Bonnières Colombes prio	600	769	600	740	+140	962
20 Fr.	500 Fr.	" " ord	416	458	400	441	+25	610
....	500 Fr.	Malopolska act	16	21	12	19	+3	123
....	....	Malopolska part	71	74	47	71	...	...
....	....	Mexican Eagle	35	42	33	41	+6	50
....	250 Fr.	Omnium Inter des Pétroles	...	77	64	66	...	102
50 Fr.	500 Fr.	Pechelbronn	385	550	365	525	+140	860
60 Fr. B.	500 Fr. B.	Petrofina	371	410	365	400	+29	485
170 Fl.	1000 Fl.	Royal Dutch	14995	15850	12750	14100	—895	31675
17 Fl.	100 Fl.	Royal Dutch 1/10	1510	1650	1310	1447	—63	3175
....	1 £	Shell	219	230	186	206	—13	480
25 Fr.	500 Fr	Steaua Française	154	176	151	176	+22	116

against Fr. 1,367,388 in 1929 when a sum of Fr. 876,000 was distributed to shareholders. The Societie Des Petroles De Tliouanet is chiefly engaged upon research and drilling work in Algeria.

THE Societe Europeenne Des Petroles founded in Paris early this year with a view to working certain concessions in Colombia, appears now to be entering upon a phase of activity. The company has arrived at an agreement with the Union Colombiana de Petroleos which will enable it to take over and exploit the latter's concessions, aggregating about 50,000 hectares. This gives the combined companies an area of 100,000 hectares of what is believed to be oil lands. The S. Europeenne Des Petroles is to construct a pipe line to the Atlantic seaboard which will cover about 480 miles, as soon as sufficient production has been secured.

THE S. A. Des Petroles Au Congo is engaged in refining and distributing petroleum products in the Belgian Congo. Profits this year having been slightly larger than in 1929, the usual dividend of Fr. 40 is to be paid to preferred shares and Fr. 8 to ordinary shares. It is stated in the director's report that these results, which in view of the existing crisis are excellent, have been obtained through modifications, improvements and additions to the company's plants at Ango-Ango, and to the extension of its commercial activities.

A cracking plant with a capacity of 49,000 bbl. per annum is being erected at Leopoldville, which should be finished by the end of the year. The S. A. des Petroles Au Congo has a capital of Fr. 25,000,000. Gross profits for 1930 amounted to Fr. 8,344,304 and net profits to Fr. 3,306,997 against Fr. 3,035,998 in 1929.

PROBABLE dissolution of the Societe Commerciale Des Carburants was reported in the November issue of WORLD PETROLEUM. This, however, is not to be the case. At a meeting held on October 15 last shareholders of the company came to the unexpected decision to reduce capital and continue operations, rather than to wind up the company's affairs definitely. Directors of the company have been requested to reorganize the business.

IN spite of hard times new companies are still being registered in France—thus the Societe Generale Des Huiles De Petrole recently formed a subsidiary company the Societe de Raffinage Des Huiles De Petrole with a capital of Fr. 5,000,000. The object of the company is to take over and work the S. H. H. P.'s refinery at Courchelettes; to take possession of a site at Martigues-Lavera and erect a new refinery with the technical aid of the Anglo-Persian Oil Company. E. Bonnet, H. Baviere, G. Brenier, N. Fuller, Ch. Laroche, Paul Lesieur, J. Taylor, G. Coxon, A. Gilabert and J. Hure have been elected to the Board of Directors. E. J. ANDRE.

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Oil Industry at World Fair

A RESOLUTION recommending participation of the petroleum industry as a whole in preparing an exhibit of the development of the industry was adopted by the A.P.I. at its annual meeting.

Ireland Doubles Petrol Tax

TAX on motor fuel in the Dublin zone and in the rest of Ireland was raised from four pence to eight pence (16 cents) as from November 7, 1931.

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Chile and Russian Oil

CHILE, which at present has no commercial relations with the Soviet Government, is deeply interested in a proposal to exchange nitrates, soda and copper for Russian oil. It also is possible that a Government monopoly may be established, a refinery built, and some crude refined in Chile.

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French Oil Imports

TOTAL imports of petroleum products into France for the year 1931 is expected to reach over 31,000,000 bbl. Imports of gasoline into France during the first nine months of 1931 amounted to 1,332,800 bbl. compared with 1,592,050 bbl. for the whole of last year. Imports of fuel oils have already exceeded the total tonnage for last year which amounted to 3,255,000 bbl. For the first nine months of this year 3,262,000 bbl. were imported. Imports of gas oil for the first nine months amounted to 1,406,000 bbl. compared with 1,162,800 bbl. for the whole of last year. Lubricating oil imports show a decline due to increased production in France. So far this year 1,260,000 bbl. have been imported.

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Foreign Oil Legion

(Continued from page 684)

J. R. DALLERUP, vice-president of the Reed Roller Bit Company, has returned to Houston, Texas, following a year's trip to the oil fields of the Dutch East Indies, India, Japan and Europe.

C. R. AVERILL, managing-director, Walworth Company, Limited, London, is visiting the Unted States on the business of his company.

J. H. BAIRD, manager of the export department in New York of the Byron-Jackson Company, is in Europe.

DR. W. R. CALVERT has returned to San Antonio, Texas, following oil exploration work in Cuba.

MICHIO MARITOMI has been appointed chief-engineer of the Samarinda oil fields, Borneo, of the Nippon Oil Company's subsidiary, the Borneo Olie Mij.

SHIPPING

December:

COMPLETION of tankers mostly ordered some time before the depression became acute, still continues and there is no alternative to owners taking delivery. A number of new tankers built for tramp work, and several constructed for the big oil companies, are being laid up as soon as they have run their acceptance trials. The feeding of new tonnage into the world's tanker fleets is still greatly in excess of the disappearance of old tonnage. Within the last few weeks a group of no less than eight tankers has been sold, seven of which are to be broken up by Japanese shipbreakers. Six of them are owned by the Anglo-Saxon Petroleum Company and its subsidiaries, while one is an old Anglo-American vessel. One of the Anglo-Saxon vessels, the Werkspoor powered VULCANUS, which was the first sea-going Diesel motorship in the world has had some twenty-one years of active life. From a shipbuilding point of view this removal of a group of tonnage will be welcome.

The sale of the ZOROASTER, 5,100 tons d.w.c., to the Soviets, is not without some ironical humor because this ship was one of the first tankers to be fitted with the new Nobel Diesel engine built at Nynasamn, Sweden, after the war by the old Russian Nobel family. This is the second recent case of a tanker having been transferred to Russian interests, the other being the motor tanker GERMANIC built by Sir W. Cockerline of Hull.

Tankers Recently Launched and Completed in Europe

Name	Owner	Tonnage	Remarks
COWRIE	Anglo-Saxon Petroleum London	11,800 Dw.	Delivered Trial trip run
CLIONA	Anglo-Saxon Petroleum London	11,800 Dw.	Completed
FANNY HOEGH	Leif Hoegh	9,765 Dw.	Completed
ARAMIS	Bernhard Hanssen Flekkefjord	11,500 Dw.	Launched
NOREG	Corona Shipping Haugesund	11,100 Dw.	Completed
JOSEFINA THONDEN	Rederi Suomi Helsingfors	9,765 Dw.	Launched
O. B. SORENSEN	S. H. Smith Arendal	11,500 Dw.	Trials run
PAN GOTHIA	Rederi Alse Gothenburg		Launched
PLUVOISE	Compagnie Nationale de Navigation, Paris	14,300 Dw.	Run trials
VARDAAS	Agdesidens Rederi Arendal	11,500 Dw.	Run trials
FJORDAAS	Agdesidens Rederi Arendal	11,500 Dw.	Run trials
BEN SADLER	National Benzole London	300 Dw.	Run trials

Chartering

CHARTER market during the past few weeks started off with slightly more enquiry, but at the time of writing has dropped down to the normal recent state of inactivity with the exception of certain Black Sea work. An order has been circulating for a 10,000 tonner from the Black Sea to Shanghai, prompt loading, and a vessel of 9,000 tons was required for a voyage from Black Sea to Continent ports towards the end of November. Both these were for clean oil cargoes. The rates, however, on such ships are not attractive. From Black Sea-U. K. Continent ports charters have been in the market for vessels of 6,000 to 6,500 tons and 7,500 tons, November loadings. A prompt vessel has also been asked for from Russian Black Sea ports to Vladivostock. Tonnage has also been asked for in the clean oil trade to lift parcels of 2,000 to 3,000 tons from Constanza to French Atlantic ports. A 7,500 tonner was fixed from Constanza to Hamburg recently at rate of 7/- and from Constanza to two French Atlantic ports (clean oil) a vessel of 6,100 tons obtained 8/6d. December loading. An order has also been circulating for a 7,000 tonner from Russian Black Sea ports to two French Atlantic ports second half of December.

Time charter remains literally bare of enquiry; probably the most progressive item to report in this connection being an enquiry for a small steamer for the carriage of spirit from California to New Zealand for consecutive voyages for 1932. Rates in all cases remain remarkably low. American coasting market remains very quiet, dark oil tonnage having recently been fixed from Gulf to Northern States at 15 cents. As far as black oils are concerned, things are a little more satisfactory and there have been one or two enquiries for large vessels for long hauls. A number of these enquiries are also for Russian Black Sea ports, a 12,000 tonner having been recently fixed with 6,500 tons for discharge at Hamburg at 7/6d. and the balance at Copenhagen at 10/- with option at Stockholm at 11/-. A vessel of 7,000 tons has been placed with lubricating oil from Gulf to U. K. Continent loading January. An enquiry has also been circulated for 6,000 tons of topped oil from Teneriffe to the United Kingdom for loading at the end of December.

New Tonnage:

THE Anglo-Saxon program of 20 large vessels is gradually being completed, including one from an Italian yard and the other from a Belfast yard. The majority of completions are still concerned with Diesel driven vessels, but there are occasional special ships in which steam is used, such as the French PLUVOISE. Her main engine is of Lentz type designed to take high pressure steam through poppet valves. This engine is the first of its type to be built in France. On trials the contract speed of 11 knots was exceeded by 1.2 knots, and the fuel consumption for all purposes worked out at 418 grammes per indicated horsepower per hour. There are strong rumours circulating in shipbuilding circles in the City that quotations will shortly be asked by a well-known consultant for a large ship of special type.

Spanish yards have recently been successful in securing a number of orders from the Spanish Petroleum Monopoly, and it is rumored that there may even be further activity in this connection. As a result of subsidies received by these yards they have been placed in a very favorable position to quote, and the Spanish Petroleum Monopoly has lately been passing the orders on to their own yards without troubling to obtain foreign quotations.

Trials have just been run on the newest British coastwise tanker, the BEN SADLER, a small ship of 300 tons gasoline capacity built for the National Benzole Co. She is Diesel propelled. It is regarded as likely that the National Benzole Company will be placing contracts for one or more smaller ships in the near future.

One result of the merger of the Standard Oil Company of New York and the Vacuum Oil Company is the formation of the Standard-Vacuum Transport Company to take over the tanker fleets of both concerns. This consolidation of tankship fleets is part of the program of the Socony-Vacuum Corporation to unite the operating properties of the two companies so far as possible.

A. C. HARDY.

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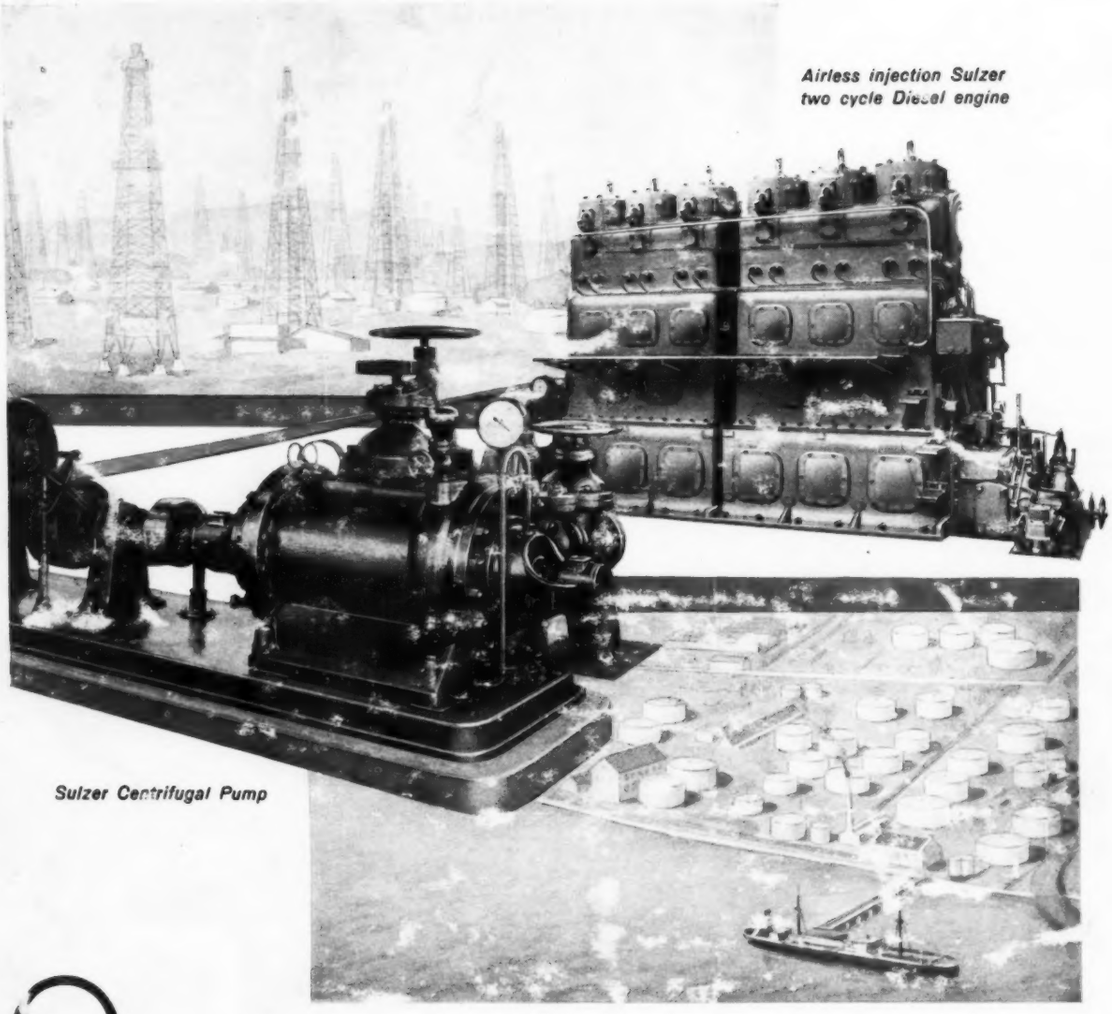

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